D.P.U. 92-250

Investigation by the Department on its own motion as to the propriety of the rates and charges set forth in the following tariffs: M.D.P.U. Nos. 502 through 522 and 466, filed with the Department on November 16, 1992, to become effective December 1, 1992 by Cambridge Electric Light Company.

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I. INTRODUCTION

A. Procedural History

On November 16, 1992, pursuant to G.L. c. 164, § 94, Cambridge Electric Light Company ("Cambridge" or "Company") filed with the Department of Public Utilities ("Department") tariffs of rates and charges to become effective December 1, 1992. The proposed tariffs are designed to increase the Company's retail electric revenues by $10,171,181, or 9.3 percent, over revenues collected for the test year ending June 30, 1992. By Order dated November 23, 1992, the Department suspended the effective date of the proposed tariffs until June 1, 1993, in order to investigate the propriety of the rates and charges sought by the Company. The investigation was docketed as D.P.U. 92-250.

Cambridge provides retail electric service to approximately 44,000 customers in the City of Cambridge. The Company also sells electricity at wholesale to the Town of Belmont. Cambridge is one of twelve subsidiaries of Commonwealth Energy System ("ComEnergy System"). ComEnergy System is an exempt holding company under the Public Utility Holding Company Act of 1935. Other subsidiaries, which are affiliates of Cambridge, include Com/Energy Services Company ("Services Company"), which provides financial and administrative services to all subsidiaries, Com/Energy Steam Company ("Steam Company"), which sells steam to retail customers, Canal Electric Company ("Canal"), a wholesale electric generating company which sells power to Cambridge, Commonwealth Electric Company ("Commonwealth Electric"), and Commonwealth Gas Company ("Commonwealth Gas"). Cambridge operates several small oil- and gas-fired generating units and has contractual interests in Canal Unit 1 and Canal Unit 2, two large oil-fired units owned by Canal. The Department last granted Cambridge a rate increase of $4,437,500, pursuant to a settlement filed by the parties in Cambridge Electric Light Company, D.P.U. 89-109 (1989).

Pursuant to notice duly issued, a public hearing was held in Cambridge on January 19, 1993 to afford interested persons an opportunity to be heard. Seventeen days of evidentiary hearings were held at the offices of the Department, beginning on February 1, 1993 and ending on February 26, 1993. The Department granted the petitions for leave to intervene filed by the Commonwealth's Executive Office of Economic Affairs, Division of Energy Resources ("DOER") and The Energy Consortium.[1] The Attorney General of the Commonwealth ("Attorney General") intervened in this proceeding pursuant to G.L. c. 12, §11E. No other petitions for leave to intervene were filed.

In support of its filing, the Company presented the testimony of 14 witnesses: Harold N. Scherer, Jr., president and chief operating officer;[2] Robert H. Martin, manager of cost administration; Francis J. McDonough, director of taxes; Stuart J. McDaniel, senior vice president of AUS Consultants - Utility Services Group; Paul R. Moul, senior vice president of AUS Consultants - Utility Services Group; James H. Aikman, vice president of Management Resources International; Henry C. LaMontagne, manager, rate design;

1 The Energy Consortium is an unincorporated association of large industrial and commercial users of energy and includes Harvard University, Massachusetts Institute of Technology, Polaroid Corporation, Raytheon Corporation, and W. R. Grace Company.

2 On March 1, 1993, Russell D. Wright succeeded Mr. Scherer as Cambridge's president and chief operating officer.

Stephen C. Chiara, senior rate analyst; Peter J. Folta, senior rate analyst; Paul H. Krawczyk, planning engineer; John A. Whalen, comptroller and chief accounting officer; Paul A. Fiocchi, manager of demand program administrative services; Steven L. Geller, director of demand program administration; and Mort D. Zajac, manager of market planning and research.

The Energy Consortium sponsored the testimony of two witnesses: Mark Drazen and Lynn Pearson, consultants with Drazen, Brubaker & Associates, Inc., who testified on cost allocation, marginal cost, and rate design.

Cambridge sponsored 88 exhibits, the Attorney General sponsored 279 exhibits, The Energy Consortium sponsored 9 exhibits, and the Department sponsored 71 exhibits. The record also includes responses to 171 record requests. All parties filed briefs and reply briefs. In accordance with Department practice, the record remained open after the close of evidentiary hearings for admission of certain information, including specified updates to schedules and responses to record requests.

Among the discovery issued in this case, on January 22, 1993, DOER requested information from Cambridge relating to mergers. On January 28, 1993, the Company filed objections to each of the information requests, and on January 29, 1993, DOER filed a Motion to Compel responses to the information requests, which the hearing officer denied in a ruling on March 25, 1993. This discovery is discussed further in Section I.B.2., below.

B. <u>Procedural Matters</u>

1. <u>Motions to Strike</u>

On April 12, 1993, the Attorney General filed a Motion To Strike Portions Of The

Company's Initial Brief. On April 20, 1993, Cambridge filed a Motion to Strike Portions of the Attorney General's Reply Brief. On April 27, 1993, the Attorney General responded to this latter motion with an Opposition to Cambridge Electric Light Company's Motion to Strike Portions of the Attorney General's Reply Brief. Each of these filings consists of an extensive list of perceived problems with matters addressed on brief. In general, the parties assert that there is inadequate support or record citation in each other's briefs. The specific passages challenged often amount to little more than hyperbole, characterization of fact, argument, or embellishment to existing written argument. We will not rule on the lists seriatim. Those passages which are challenged as unsworn and unsupported by the evidence in the case will be considered as argument and will be afforded due weight in light of the evidentiary record in the case. Braintree Electric Light Department, D.P.U. 90-263, at 24-25 (1991). Accordingly, the Motions to Strike of the Attorney General and the Company are denied.[3]

2. DOER's Request for Clarification

On January 22, 1993, DOER filed its First Set of Information Requests. These information requests sought information from Cambridge regarding possible economies under certain hypothetical scenarios relating to mergers, consolidations or joint endeavors with other electric utilities. On January 28, 1993, the Company filed objections to each of the

3 On March 19, 1993, the hearing officer issued a ruling regarding the Attorney General's Objection to Cambridge Electric Light Company's Filing of Certain Schedules. This ruling, inter alia, denied an adjustment to Schedule 42 concerning overhaul expenses at Kendall Station. Cambridge proposed the same adjustment in its April 5, 1993 brief. For the reasons stated in the ruling, the Deparment will not consider the Company's proposed adjustment.

information requests on the grounds that each is "vague, overbroad, burdensome, and well beyond any reasonable scope of this proceeding." Pursuant to a Motion to Compel Discovery filed by DOER on January 29, 1993, and following oral argument, the hearing officer issued a ruling denying the motion ("Ruling") which stated inter alia that:

> the issues of mergers, consolidations, and joint endeavors with other electric utilities, as raised by DOER's information requests, fall outside the scope of a general rate case ... [However,] the kinds of evidence typically gathered in a general rate case may lead the Department, pursuant to G.L. c. 164, to examine the issues of mergers, consolidations, or joint endeavors in an appropriate proceeding.

Hearing Officer Ruling, March 25, 1993, at 7.

On April 2, 1993, DOER filed a letter which (1) indicated that it would not appeal the Ruling and (2) requested that the hearing officer clarify the Ruling.[4] The Department has thoroughly reviewed both DOER'S position as stated in the record of this case, and its request for clarification. The Department finds that, based on the facts in this case, the Ruling is supported on the record and accurately reflects the best disposition of the issues raised by DOER.

It is important to note that in response to DOER'S discovery, Cambridge indicated that it had not perfomed any studies concerning economies that would be achieved by mergers, consolidations, or other joint activities with other electric utilities. Therefore, there

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[4] DOER filed its initial brief prior to the Hearing Officer's ruling. In its reply brief, DOER again addressed the issues related to discovery and incorporated its request for clarification. The Company responded to DOER'S written arguments in its initial and reply briefs. The parties' arguments were similar to those raised in the Motion to compel and response thereto. There was no appeal of the hearing officer's ruling and, accordingly it is not necessary to restate the discovery issue or respond to the particular arguments raised.

were no existing studies to produce. Although in the instant case there were no studies to be produced, it appears that any such studies a company had performed would be discoverable.

The remaining discovery submitted by DOER asked for studies to be performed and involved assumptions that the Company had merged with Boston Edison Company, "a large electric utility", or "a larger electric utility." In the Commission's judgment, there was insufficient time remaining in the case to perform and analyze those studies.[5]

The issues of mergers, acquisitions, joint endeavors, and other reorganizational activities of one jurisdictional utility with another may well relate to management, cost containment, or other issues clearly and traditionally contained in our jurisdiction. Therefore, these issues are of considerable and continuing interest to the Department.

As indicated in the Ruling, the Department expects all utilities to explore thoroughly all cost-savings measures, and we will not be reluctant to investigate fully the depth and breadth of a company's efforts. The Ruling itself noted that "issues of cost-savings, cost-effectiveness, and forms of corporate organization generally are of considerable interest to the Department," and given this interest, "utilities [must] explore potential opportunities to achieve efficiencies of all kinds." See Ruling at 7. These principles remain paramount.

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5 The decision to permit discovery on these kinds of issues is subject to the law and regulations controlling discovery, including the pragmatic concerns of, among other things, the timing of the issuance of discovery and the feasibility of the Company to undertake a meaningful study in the time remaining in the case. Moreover, the proponent of such discovery might be best served by presenting its own direct case and subsequent analysis.

Corporate structure could well be a critical component of a utility's search for opportunities to benefit its ratepayers, not to mention to fulfill its fiduciary responsibilities to its shareholders. The Department fully expects companies under its jurisdiction, when faced either with both extraordinary problems and extraordinary opportunities, to look outside the perimeter of their own operations. It may well be appropriate to consider mergers or acquisitions in order to further optimize least-cost planning efforts and better fulfill their obligations to serve. Economies of scale might be obtained by establishing a new organization through merger with an appropriate partner. It may be possible to eliminate excess costs by centralizing or decentralizing certain functions. Where companies have different load characteristics there may be particularly attractive opportunities. These opportunities will vary from company to company, and from time to time, but should be matters for continuing attention and alertness by a company's senior management and directors. The Department will exercise its discretion, when presented with such issues, to determine prospectively the scope of inquiry into a utility's cost-savings efforts. However, we caution all of our jurisdictional companies that prudent and effective management practice requires each utility's management to be vigilant to seize all opportunities, whenever and wherever available.

II. RATE BASE

A. Kendall Station Allocations to Steam Company

1. The Company's Proposal

There are five boilers located at Cambridge's Kendall Station (Exh. AG-108). Boilers 1, 2, and 3 are owned solely by Cambridge, and deliver high pressure steam to three turbine generators (Tr. 17, at 191-192; RR-AG-34; RR-AG-45). After the steam is used to drive the turbines, residual low-pressure exhaust steam is available for resale to the Steam Company (RR-AG-34; RR-AG-45). During the test year, the Company sold 42 percent of the steam produced by boilers 1, 2, and 3 to the Steam Company after the steam was used to produce electricity, earning the Company gross revenues of $3,234,654 (RR-AG-45, Rev.). As prescribed by the Uniform System of Accounts for Electric Companies, these revenues are booked to Account 504 and are credited against steam power generation expense (see, e.g., Exh. CEL-33, at 320).

Boilers 4 and 5 are owned solely by the Steam Company and supplement steam purchased from Cambridge for sale to the Steam Company's customers (Tr. 6, at 52; RR-AG-34). These two boilers are housed in a separate Company-owned building classified as non-utility plant (Tr. 8, at 106). Cambridge booked to Account 121 (Non-Utility Plant) $482,596 in Kendall Station land and buildings used by the Steam Company, and the Company assigned a portion of other facilities to the Steam Company (Exhs. CEL-33, at 221; AG-108). During the test year, Cambridge charged the Steam Company $92,219 in rental fees for the space and related facilities (Exh. AG-108, Att. 1-27(d)).

2. Positions of the Parties

a. The Attorney General

The Attorney General contends that the Company has failed to allocate any portion of boilers 1, 2, and 3 to the Steam Company (Attorney General Brief at 37). The Attorney General reasons that because the primary source of steam sold by the Steam Company is produced from boilers 1, 2, and 3, a portion of boiler plant should be allocated to the Steam Company (id.; Attorney General Reply Brief at 24).

In response to the Company's argument that the issue of allocations to the Steam Company was settled in Cambridge Electric Light Company, D.P.U. 20104 (1979), the Attorney General responds that the Department has since become much more sophisticated in its treatment of inter-company allocations (Attorney General Reply Brief at 22-23). The Attorney General contends that plant used jointly by utility and non-utility operations are now allocated between such operations (id., citing Berkshire Gas Company, D.P.U. 92-210, at 4-18 (1993) and Berkshire Gas Company, D.P.U. 90-121, at 20-70 (1990)).

In his initial brief, the Attorney General recommends using a 42 percent production plant allocator to apportion the Company's boiler plant to the Steam Company, based on the percentage of total steam production at Kendall Station sold to the Steam Company, yielding a decrease to Cambridge's gross plant of $3,699,375 (Attorney General Brief at 37-38). In his reply brief, the Attorney General revised his proposed allocator by offering a monthly proportional responsibility ("PR") allocation factor based on the Department's decision in D.P.U. 90-121, resulting in an allocation of 43.58 percent to the Steam Company (Attorney General Reply Brief at 25).

Consistent with his revised allocator, the Attorney General advocates reducing accumulated depreciation associated with that portion of boiler plant used by the Steam Company (Attorney General Brief at 38). To calculate the accumulated depreciation on what he considers to be the Steam Company's portion of the total use of boilers 1, 2, and 3, the Attorney General determined that 30.36 percent of accumulated depreciation on steam plant, or $5,144,619, represented accumulated depreciation on the Company's boiler equipment (id. at 38-39). Using his calculation of the depreciation reserve of $5,144,619 associated with the Company's boiler plant and the 43.58 percent allocation to the Steam Company as calculated above, the Attorney General concludes that 43.58 percent of the depreciation associated with Cambridge's boiler plant should be allocated to the Steam Company (Attorney General Brief at 38-39; Attorney General Reply Brief at 25). The Attorney General also argues that 2.75 percent of accumulated deferred income taxes, representing the portion of boiler plant proposed to be removed from rate base as a percentage of total depreciable plant, also be removed from the Company's accumulated deferred income tax reserve, for a decrease in the deferred income tax reserve of $400,451 (id. at 39).[6] Finally, the Attorney General proposes to adjust the Company's depreciation and property tax expense consistent with these recommendations (id. at 39-40). These adjustments are addressed below.

6 The Attorney General's calculation of depreciation reserve and deferred income taxes is based on the 42 percent allocator proposed in his initial brief (Attorney General Brief at 39).

b. The Company

Cambridge argues that the issue of the Company's allocations to the Steam Company were fully reviewed and approved by the Department in D.P.U. 20104. According to the Company, in D.P.U. 20104, the Department found that any allocation of expenses to the Steam Company must be first functionalized, then classified and then allocated (Company Brief at 37). Cambridge contends that the Attorney General's allocation method fails to take into account functionalization or classification (id.). Cambridge maintains that, because the Steam Company owns all of the plant used in the transmission and production of steam, only generation plant used in the joint production of steam and electricity requires examination (id.). In reviewing classification of plant, Cambridge argues that the analysis of the demand requirements of each operation (electricity and steam) demonstrates the impropriety of a energy-based allocator as proposed by the Attorney General (id. at 38).

The Company claims that, in D.P.U. 20104, the Department found that the appropriate allocator was equal to the percentage of steam that was not used in producing electricity (Company Brief at 38, citing D.P.U. 20104, at 14-15). Because the Company claims all of the steam produced at Kendall Station was used in the production of electricity, just as was the case presented in D.P.U. 20104, no allocation to the Steam Company of costs associated with Kendall Station is warranted (id.).

Cambridge claims that it received $9,391,785, consisting primarily of fuel and labor reimbursements, from the Steam Company during the test year (id., at 36, 42, citing Exhs. AG-108 and AG-216). The Company submits that these reimbursements for a steam operation with gross revenues of $11,647,862 provide a better indicator than the Attorney

General's analysis is in determining whether the Steam Company is bearing its share of costs (Company Reply Brief at 23). Cambridge contends that acceptance of the Attorney General's recommendation would over-allocate costs to the Steam Company's customers and render the steam operation noncompetitive (id. at 22).

The Company points to what it considers to be the "unique implications" of cogeneration for cost assignment purposes (Company Brief at 40; Company Reply Brief at 21). According to Cambridge, all of the steam produced at Kendall boilers 1, 2, and 3 are used to produce electricity (Company Brief at 40). Only after the steam is used in electricity production is a portion recaptured at low pressure for use by the Steam Company (id.). Cambridge indicates that the configuration and specifications of the Kendall Station boilers and turbines demonstrate that the primary purpose of boilers 1, 2, and 3 is to provide electricity (id. at 40-41). Cambridge emphasizes that the steam sold to the Steam Company is a byproduct of electric generation, and that it is the need for electricity which dictates the operation of Kendall Station (id.; Company Reply Brief at 25).

Regarding the Attorney General's argument that plant used jointly by utility and non-utility operations is allocated between such operations, Cambridge points out that unlike other joint operations, such as Berkshire Gas Company's propane division, Berkshire Propane, the Steam Company is fully able to supply its customers from its own facilities, and places no demand on Company-owned boilers for cost allocation purposes (id. at 24; Company Brief at 38). Moreover, the Company asserts that the absence of different material circumstances than those present in D.P.U. 201O4, requires reasoned consistency and, therefore, the rejection of the Attorney General's proposed allocator (Company Brief at 39-40).

3. Analysis and Findings

In D.P.U. 20104, the Department rejected the use of a energy allocator to assign costs between the Company's Blackstone Street Station boiler plant and the Steam Company. Id., at 14-15. Instead, the Department accepted an allocation method which reflected the Company's operational requirements and the role of the Blackstone Street Station in Cambridge's supply portfolio. Id. at 13-15. Moreover, the Department noted in D.P.U. 20104 that its disposition of the issues concerning Blackstone Station costs had equal application to Kendall Station. Id. at 10 n.3.

While the Department mandated the use of a monthly PR allocator in D.P.U. 90-121, and accepted a daily PR allocator in D.P.U. 92-210, we find that the allocation method developed in D.P.U. 20104 for the Blackstone Street Station boiler plant should still be applied in the instant case.

In both D.P.U. 92-210 and D.P.U. 90-121, the Department found that utility plant was used to furnish the same product directly to both the utility operation and its non-utility propane sales division. However, in the instant case, all of the steam produced in Kendall Station's boilers 1, 2, and 3 is used in the generation of electricity; no steam produced at these boilers is sold directly to the Steam Company without first being used to operate the Company's turbines (RR-AG-34; Tr. 8, at 110). The operations of the Steam Company differ from Berkshire Propane to such an extent that the cost allocation principles expressed in D.P.U. 92-210 and D.P.U. 90-121 cannot be applied to Cambridge's steam sales. Accordingly, the Department finds that no further plant allocation is required.

B. Cash Working Capital Allowance

1. The Company's Proposal

In its day-to-day operations, the Company requires working capital to pay for its operation and maintenance ("O&M") expenses as well as its fuel and purchased power expenses. Working capital is provided either through funds internally generated by the Company (i.e., retained earnings) or through short-term borrowings. Department precedent entitles Cambridge to be reimbursed for the costs associated with the use of its own funds and for the interest expense it incurs for borrowings. Western Massachusetts Electric Company, D.P.U. 87-260, at 22-23 (1988). This reimbursement is accomplished by adding a working capital component to the Company's rate base computation.

A time lag occurs between the Company's payment of its O&M expenses and customers' payments for services received. The time lag involves two components: (1) the number of days between the delivery of electric service by the Company and the receipt of payment from customers ("lag days"); and (2) the number of days taken by the Company to pay its O&M expenses ("lead days"). The difference is the net lag (or lead, if negative). The net lag is then applied to annual O&M expenses to determine the average amount of working capital the Company must have on hand to cover the lag in recovery of revenues for services rendered.

In its initial filing, the Company submitted a lead-lag study which proposed a total working capital allowance of $4,908,603 (Exh. CEL-9, Sch. 39). This represented a 16.74-day net lag applied to total O&M requirements of $107,027,495 (Exh. CEL-3, Sch. 1). The lead-lag study indicated a revenue lag (the number of days between provision of service and customer payments for that service) of 47.18 days and a composite expense lag (the number of days between the incurrence of an expense and the Company's payment of that expense) of 30.44 days (id.). The overall results of the lead-lag study included a net lead-lag factor of 12.67 (47.18 minus 34.51) days for fuel and purchased power expense, and a net lead-lag factor of 28.03 (47.18 minus 19.15) days for other O&M expense (id., Sch. 1). Additionally, the lead-lag study included a net lag of 16.36 (47.18 minus 30.82) days for taxes other than income taxes, a negative net lag of 11.77 (47.18 minus 58.95) days for federal income taxes, and a net lag of 32.33 (47.18 minus 14.85) days for state taxes (id.).

According to the Company, the lead-lag study followed the same method as was approved in Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80 Phase One (1991) ("D.P.U. 90-331") with two modifications reflecting what Cambridge considered to be the appropriate treatment of purchased power expense and service company reimbursements (Exh. CEL-3, at 4).

In D.P.U. 90-331, the Department prescribed a 44.98-day payment lag for purchases from Canal. Id. at 23-24. Based on its actual payment history for power purchases from Canal, Cambridge applied a 29.18-day payment lag for purchases from Canal Unit 1, and a 29.0-day lag for purchases from Canal Unit 2 in deriving its working capital needs (Exh. AG-1, at 21). The Company stated that under the terms of its Canal Unit 1 power contract, payment is due at the time Canal sends its invoice to Cambridge, and that payments for purchases from Canal Unit 2 are due 15 days from invoicing (Exh. CEL-3, at 5; Tr. 1, at 42). Cambridge suggested that the Department misunderstood the nature of the lead-lag calculation in D.P.U. 90-331, and incorrectly concluded that the Company could make payments 45 days in arrears on the basis of the 45-day working capital allowance used for purposes of setting Canal's wholesale rate (Exh. CEL-3, at 4).

In D.P.U. 90-331, the Department prescribed a 5.20-day payment lag for purchases from the Services Company. Id., at 23-24. In the instant case, the Company applied a 21.03-day payment lag for the Services Company reimbursements (Exh. CEL-3, Sch. 3). Cambridge reported that payments to the Services Company are made early in the month following the period of time during which services were provided by the Services Company (Tr. 1, at 43). According to the Company, this payment system eliminated the need to allocate the capital costs of the Services Company to Cambridge and its affiliates, thus reducing the cost to Cambridge's ratepayers (Exh. CEL-3, at 5).

2. Positions of the Parties

a. The Attorney General

With regard to payments to affiliated companies, i.e., Canal and the Services Company, the Attorney General asserts that the Company has neither complied with Department precedent to apply a 45-day payment lag as articulated in D.P.U. 90-331, nor provided any evidence to contradict the Department's findings in D.P.U. 90-331 (Attorney General Brief at 34-35). According to the Attorney General, in D.P.U. 90-331, the Department rejected the practice of recognizing payments to affiliate companies as being either prepaid or paid with a 15-day lag period, finding that ratepayers were already paying for a 45-day revenue lag through affiliate contracts and, therefore, the Department found no justification for payments to be made any earlier than 45 days (id., citing D.P.U. 90-331, at 23-24). The Attorney General argues that the Company has failed to substantiate the existence of a billing arrangement that recognizes payments to affiliated companies as either being prepaid or paid with a 15-day lag period (id. at 34). The Attorney General argues that Cambridge's ratepayers should not be burdened with the expense of a 15-day expense lag in their rates while the Company is granted 45 days to pay Canal (id. at 35). The Attorney General suggests that the real purpose of Cambridge's witness on cash working capital was to reargue issues already decided in D.P.U. 90-331 and Commonwealth Electric Company, D.P.U. 88-135/151 (1989) (Attorney General Reply Brief at 17-18).

In addition, the Attorney General proposes an adjustment to the Company's cash working capital allowance for interest expense (Attorney General Brief at 36-37). The Attorney General argues that while the Company's interest on long-term debt is paid semi-annually, Cambridge collects through rates the interest expense well before payment is required (id.). The Attorney General proposes, therefore, that the Company's cash working capital allowance be reduced by $469,830 (id., at 36-37, citing Western Massachusetts Electric Company, D.P.U. 88-250, at 22 (1989)).

b. Energy Consortium

The Energy Consortium observes that while the Company's interest on long-term debt is paid semi-annually, Cambridge collects the interest expense through rates on a continuous basis (Energy Consortium Brief at 6). The Energy Consortium contends that this represents a source of working capital for the Company that partially offsets the Company's total working capital needs, and should be recognized in the cash working capital computation (id. at 7, citing D.P.U. 88-250, at 22). Therefore, the Energy Consortium argues that a negative lag factor of 44.07 (47.18 minus 91.25) day lag factor for interest expense should be included in rate base, thereby reducing the Company's working capital allowance by $469,830 (id.).

c. The Company

Cambridge argues that its calculation of cash working capital generally comports with Department precedent (Company Brief at 56-57). In those instances where Cambridge deviated from the cash working capital method prescribed in D.P.U. 90-331, the Company asserts that its departures are appropriate, because the record in this case is more complete than was the case in D.P.U. 90-331 (Company Brief at 57; Company Reply Brief at 28).

Cambridge contends that payments pursuant to the Canal Unit 1 contract are due when the bill is rendered and payments for Canal Unit 2 and Seabrook 1 purchases are due 15 days from the date of the invoice (Company Brief at 57). Additionally, Cambridge states that it is subject to severe penalties for late payment (id. at 58). The Company further argues that it made its required payments under the terms of the contract, while maximizing its cash management for the benefit of its ratepayers (id.; Company Reply Brief at 28).

Concerning its payments to the Services Company, Cambridge stated that a 21.03-day payment lag is accurate because under the Company's billing arrangement with the Services Company, payment is made in advance, which eliminates the need for the Services Company to raise working capital from outside sources (Company Brief at 59). Cambridge claims that it generally makes payments as they become due and has prepaid only three times during the test year (id.). The Company argues that the Attorney General has presumed incorrectly that any Services Company payments with negative lags are prepayments (Company Reply Brief at 29). Rather than prepayments, Cambridge maintains that negative lags denote that particular invoices were paid before the midpoint of the service period (id.). The Company argues that the Services Company is not operated for profit and serves as a conduit to allocate costs between its affiliates (Company Brief at 59). Cambridge argues that by paying the Services Company as payments become due, the Company avoids having to pay the Services Company's working capital needs in the costs charged to Cambridge by the Services Company (id. at 59-60). In addition, Cambridge contends that through this arrangement, the Company avoids the possibility that it may end up subsidizing another affiliate's portion of the Services Company's working capital needs (Company Reply Brief at 29).

Cambridge rejects the Energy Consortium's and Attorney General's proposed treatment of interest expense. First, the Company argues that interest is not recovered as an operating expense, but as a component of the return on rate base (Company Brief at 60). Cambridge claims that acceptance of the Energy Consortium's proposal would represent a dramatic change in ratemaking principles (id.). Moreover, the Company contends that the Energy Consortium's reliance on D.P.U. 88-250 is misplaced, because, in that case, the utility failed to meet the Department's requirements for a sound lead-lag study (id. at 61, n. 48). Furthermore, Cambridge argues that Department precedent dictates a result contrary to that proposed by the Energy Consortium, and notes that the treatment of interest payments by the Federal Energy Regulatory Commission ("FERC") and other jurisdictions justifies the Company's treatment of interest expense (id. at 61-62). Cambridge contends that if the Department considers interest expense to be a component of working capital, then the Department should reflect all types of expenses, including dividend payments, in the working capital allowance (id. at 63).

3. Analysis and Findings

The Company has requested that the Department reconsider its ruling in D.P.U. 90-331 that payments to affiliated companies should be based on a 45-day lag factor, insofar as it applies to Cambridge. In D.P.U. 90-331, the Department found that the Company's contracts with its affiliates, including Canal and the Services Company, specified a 45-day payment period. Id. at 23-24.

In this case, the facts are distinguishable from the fact situation presented in D.P.U. 90-331. The evidence in this case demonstrates that rather than a 45-day payment period for Canal purchases, the Company's contract with Canal Unit 1 specifies payment at the time Canal bills Cambridge, and that payments for purchases from Canal Unit 2 are due 15 days from billing (Exh. CEL-3, at 5; Tr. 1, at 70). Payments received after that date are subject to an interest charge equal to two percent above the then-current prime interest rate (Tr. 1, at 76). The terms of these contracts have been approved by FERC (Tr. 1, at 71). Moreover, Cambridge's payment history to Canal exhibits payment lags consistent with those associated with the Company's other supply contracts (Exh. AG-1). Accordingly, the Department finds that the Company's payment period is the appropriate lead component for payments to Canal.

Regarding the Company's payments to the Services Company, the Department notes that on at least three instances, payments were made before the end of the service period covered by the invoice, and as such, these payments by the Company to the Services Company represents prepayments (Exh. AG-1, at 50; Tr. 1, at 43). As found in

D.P.U. 90-331, prepayment of services provided by the Services Company amount to a gift of working capital to the Services Company. Id. at 24. The Company has failed to support its assertion that prepayments produce benefits to ratepayers in the form of cost savings or otherwise. Accordingly, the Department rejects the Company's proposed 21.03-day lag for payments to the Services Company.

However, the Department also finds that there is no support in the record for the Attorney General's proposed payment lag of 45 days. The Services Company is an unregulated affiliate of Cambridge; its rates for services provided to the Company are not regulated by Federal or state agencies. Services provided to Cambridge by the Services Company are paid for early in the month following billing. Accordingly, there is no basis to conclude that a 45-day working capital allowance plays any role in the Services Company's charges to Cambridge, and thus there is no basis to impute a 45-day payment lag in this case.

As noted above, some of the Services Company's billings to Cambridge have negative lag days assigned to them. The Department finds it appropriate to exclude from the working capital lag calculation those Services Company invoices which were prepaid (i.e., invoices 070124, 090192, and 040494). This produces a revised lead component of 24.55 days for Services Company charges. Application of this lead component to the Company's other non-fuel O&M components results in a non-fuel O&M lag factor of 19.58 days instead of the 19.15-day factor reported by the Company. Accordingly, the Department shall apply a net lag factor of 27.60 (47.18 minus 19.58) days in determining the Company's working capital requirements associated with O&M expense.

Finally, the Department has considered the Company's arguments with respect to the inclusion of interest on long-term debt in the lead-lag calculation. The Department traditionally has used the 45-day convention, multiplied by O&M expense, to determine non-fuel working capital requirements. For many years, the Department has steadfastly rejected any additions to or offsets against application of the 45-day convention. Boston Gas Company, D.P.U. 1100, at 16-19 (1982); Haverhill Gas Company, D.P.U. 19660, at 3 (1979); Massachusetts Electric Company, D.P.U. 18204, at 16-17 (1975).

In certain instances, the Department has directed utilities to perform non-fuel lead-lag studies because of the interrelationship between those utilities and their affiliates. See Commonwealth Electric Company, D.P.U. 88-135/151, at 10-12 (1989); D.P.U. 87-260, at 31-32. The Department has adopted the results of a lead-lag study to calculate cash working capital allowances only if the results of a lead-lag study produce a significantly different result than the results obtained from the 45-day convention. Western Massachusetts Electric Company, D.P.U. 86-280, at 31 (1987).

The cases cited by the Company in support of the proposition that interest expense is not properly included in the lead-lag study are inapplicable here. In those cases, since the Department applied the 45-day convention there was no issue as to whether interest should be included in the computation of the lead-lag factor. Berkshire Gas Company, D.P.U. 92-210, at 266 (1993); Bay State Gas Company, D.P.U. 92-111, at 351 (1992); Massachusetts Electric Company, D.P.U. 92-78 (1992); D.P.U. 90-331, at 10-24.

In cases in which a utility provided an O&M lead-lag study, the Department included interest expense in the computation of the lead-lag factor, finding that interest expense represented cost-free funds provided by the ratepayer until the obligation is met, and that unless interest expense is recognized as a source of cash working capital at zero cost, common stockholders will earn a return on capital not supplied by them. Western Massachusetts Electric Company, D.P.U. 89-255, at 8-10, 154 (1990); Western Massachusetts Electric Company, D.P.U. 88-250, at 22 (1989).

The Company's argument that operating expenses should be segregated from return components for cash working capital purposes is not compelling. The purpose of cash working capital is to permit a utility to recover legitimate working capital expense outlays that must be made while waiting for collection of revenues. See D.P.U. 89-255, at 9. The Department has found that interest on long-term debt and preferred dividends represent cash obligations, while common stock dividends are not cash obligations. D.P.U. 88-250, at 22-23. Accordingly, the Department is not persuaded that the inclusion of interest in the cash working capital allowance requires a corresponding inclusion of dividend payments in the cash working capital allowance. The Department hereby reaffirms its findings in D.P.U. 88-250 that interest expense is an appropriate component of an O&M lead-lag study. Accordingly, the Department shall apply a negative net lag factor of 44.07 (47.18 less 91.25) days in determining the Company's working capital requirements associated with interest expense.

The Department will rely on Exhibit CEL-9 and Record Request DPU-21 as the basis for determining the net lag days in the working capital calculation. Applying the determinations reached above, the Department has adjusted the Company's lead-lag study by revising the non-fuel O&M component to reflect a 24.55-day lag for services provided by the Services Company. This adjustment produces a net lag of 27.60 days for O&M expense.

Additionally, the Department has applied the negative lag factor of 44.07 days to the Company's interest expense. The Department accepts the net lags proposed by Cambridge for taxes other than income taxes, federal income taxes, and state taxes. These factors will be applied to a base comprised of non-fuel O&M, taxes, and the return component associated with long-term debt. D.P.U. 88-250, at 28.

III. REVENUES

A. Work Management Information System

1. The Company's Proposal

From 1989 through 1992, Cambridge and Commonwealth Electric ("the Companies") developed a computerized work management information system ("WMIS") to promote uniform construction designs, improve construction estimates, and provide tools for managing line-crew workloads (Tr. 6, at 10-11; Exh. CEL-8, at 23). During its development the Company's customers did not support any costs of the WMIS project (Exh. CEL-8, at 14). Accordingly, the costs associated with its development were recorded below the line and were not included in the test year cost of service (id. at 14-15; Tr. 6, at 27-28).

On March 18, 1991, the Companies sold the WMIS marketing rights to Synercom Technology, Inc. (Exh. AG-106, Att. B). Pursuant to the Synercom Marketing Agreement, the Company has the potential to receive, on an annualized basis, $16,875 for seven years (Exh. AG-106, Att. B, § 4.6). However, during the test year Cambridge received $22,500 for its share of the sale of the WMIS marketing rights (Exh. CEL-9, Sch. 4; Tr. 6, at 21). The Company proposed to remove this $22,500 in revenues from its cost of service because ratepayers did not support the costs of WMIS development (Exh. CEL-8, at 14-15).

On August 1, 1992 the Companies sold WMIS to Bankers Leasing Corporation for $1,671,293, which is equal to the cost of the system's development (Tr. 6, at 23, 25). The Companies then began leasing WMIS back for the amount of the WMIS development cost from Bankers Leasing Corporation by entering into a seven-year lease (Exh. CEL-8, at 22;

Exh. AG-106, Att. C). Cambridge proposed a $39,504 adjustment to its test year cost of service to reflect the annual lease cost over seven years (Exh. CEL-9, Appendix C, Sch. 15, at 2). However, the proposed WMIS lease adjustment is based on a six-year lease, rather than a seven-year lease. According to the Company, it reduced the term of the lease to decrease the amount of lease payments to be supported by ratepayers, in recognition of the revenue the Company will receive from the sale of the WMIS marketing rights (Exh. CEL. 8, at 22).

2. Positions of the Parties

a. The Attorney General

The Attorney General does not dispute the adjustment for WMIS lease expense (Attorney General Brief at 58). However, the Attorney General argues that through the lease arrangement, ratepayers are essentially paying for the development of WMIS over the next six years (id. at 57-58; Attorney General Reply Brief at 27). The Attorney General argues that the Company should not be allowed to retain the profits from selling WMIS marketing rights while charging ratepayers for its development through the lease expense (id.). Accordingly, the Attorney General argues that the Company's revenues should be increased by $16,875 to reflect the potential royalty payments for one year (Company Reply Brief at 27).

b. The Company

According to the Company, its shareholders bore the entire risk and costs associated with the WMIS development as evidenced by the fact that such costs were accounted for separately and were not included in the test year cost of service or in any above-the-line accounts at any time (Company Brief at 119-120). Therefore, the Company argues, its proposed adjustment to remove $22,500 from test year revenues is both consistent and proper (id.).

In addition, the Company asserts that even if it had not sold WMIS, it would have capitalized the project along with allowed funds used during construction ("AFUDC") and amortized it over a period similar to the lease agreement (id.). Thus, the Company asserts that the sale of WMIS did not result in any adverse consequences to the Company's customers (id.).

3. Analysis and Findings

The Company stated that it developed WMIS beginning in 1989 as a non-utility product and accorded it below-the-line ratemaking treatment until 1992. While the Company has indicated that its shareholders bore the risk and costs associated with the development of WMIS, those costs have been "repaid" as a result of the 1992 WMIS sale, at cost, to Bankers Leasing.

The question before the Department at this time is the proper treatment to be afforded the revenues associated with the marketing rights. To begin our analysis, we note the Company's testimony that had it not sold WMIS, it would have sought to capitalize the WMIS project and amortize its costs over a period similar to the term of the current lease. Had the Company included WMIS in its rate base for ratemaking purposes, ratepayers would have borne the responsibility to pay the cost of the development of WMIS. Under this scenario, if the Company sold the marketing rights, ratepayers would be entitled to the revenues generated from the marketing arrangement.

After Cambridge sold WMIS to Bankers Leasing, it entered into a lease agreement with Bankers Leasing to use WMIS in its utility operations. The Company itself has indicated that WMIS would benefit its customers (See Company Brief at 120 n.104 citing Exh. AG-201). The evidence indicates that the amount of the lease was based upon the purchase price Bankers Leasing paid to Cambridge. Because the arrangement made by Cambridge and Commonwealth Electric resulted in the amount of the lease being equal to the purchase price, and therefore equal to the original cost of developing WMIS, the ratepayer ultimately bears the cost of WMIS. The Department finds that the treatment of the WMIS marketing revenues is the same regardless of whether WMIS had been included in rate base. Therefore, the Department finds that the marketing revenues should accrue to the benefit of ratepayers. Accordingly, the Department denies the Company's proposal to decrease test year revenues by $22,500.[7]

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7 Although, the Department's decision is to deny the Company the revenues derived from the marketing rights, we are concerned that the Company did not provide complete information to allow the Department to determine whether the shareholders should have received some benefit over recovery of cost and if so, what percentage of benefit over cost would have been reasonable.

IV. EXPENSES

A. Employee Compensation Expenses

1. Introduction

The Company presented information, in the instant proceeding, regarding the expenses associated with each component of the compensation package that the Company offers its employees.[8] In this Order, the Department makes findings about the reasonableness of each of these individual expenses. In the concluding portion of this section of the Order, the Department expands on the directives set forth in Berkshire Gas Company, D.P.U. 92-210 (1993), regarding companies' employee compensation strategies and the minimization of unit-labor costs.

2. Payroll

a. The Company's Proposal

The Company has proposed a total adjustment of $1,003,353 to its test year payroll expenses of $10,957,350 (Exh. CEL-8, Sch. 18-21, Rev.). The proposed adjustment relates to the annualization of test-year, post-test-year, and rate-year payroll increases for union and non-union employees. Cambridge incurs payroll expenses for its own employees as well as for those employees of Commonwealth Electric, Commonwealth Gas, and the Services

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8 These components are payroll, health care, employee fitness program, education aid program, overtime meal expense, adoption expense, savings plan matching contribution, and post-retirement benefits.

Company that provide services to Cambridge (id. at 23-26).[9] Table 1 provides a summary of the test-year payroll expenses and proposed adjustments.

TABLE 1

Employer		Test Year Payroll Expenses	Proposed Adjustments
Cambridge	Non-Union	$ 1,872,000	$ 148,933
	Union	4,218,991	422,700
Commmonwealth Electric	Non-Union	$ 2,395,411	$ 209,764
	Union	445,418	51,572
Commonwealth Gas	Non-Union	$ 98,709	$ 8,608
	Union	569,636	41,773
Service Co.	Non-Union	$ 1,357,185	$ 120,003
TOTAL		$10,957,350	$1,003,353

9 The Company testified that Commonwealth Electric employees provide services to Cambridge for various management functions such as engineering, planning, and various administrative budgeting and control functions. In addition, Commonwealth Gas employees read electric meters, perform collection work, provide cashier services, and respond to customer billing inquiries on behalf of Cambridge in those communities where both gas and electric services are provided by ComEnergy System companies (id.).

b. Positions of the Parties

i. The Energy Consortium

The Energy Consortium argues that the Department should reverse its precedent and use the Company's test-year-end employment figures, rather than its test-year-average, to determine the test-year payroll level, thus reducing salary and wage expenses by $169,155 (Energy Consortium Brief at 4-5). The Energy Consortium contends that the Company has indicated its commitment to streamline its operations in the future, thus requiring a reduced number of employees. Therefore, the Energy Consortium argues, the test-year-end employment figures, which are known and measurable, are more representative of rate-year employment levels than the test-year-average employment figures (id.).

ii. The Attorney General

The Attorney General argues that the Department should reduce the Company's test-year payroll expenses to exclude those expenses associated with promotions that occurred during the test year (Attorney General Brief at 70, n.73). The Attorney General contends that the inclusion of such costs without the exclusion of savings from retirements and other separations produces an unrepresentative test-year level of expenses (id.).

The Attorney General further argues that the Company's proposed post-test-year and rate-year payroll adjustments for non-union employees are not known and measurable and, therefore, do not comport with well-established Department precedent (id. at 73-74, citing Fitchburg Gas and Electric Company, D.P.U. 1270/1414, at 14 (1983)). The Attorney General argues that, because the actual post-test-year and rate-year payroll increases granted to the Company's non-union employees are determined by individual performance evaluations, the overall payroll increases approved by senior management are "simply a ceiling" on the allowable increases for these employees (id.). Accordingly, the Attorney General argues that the signed approvals do not demonstrate an expressed commitment by management to grant the approved increases and recommends that the proposed post-test-year and rate-year non-union payroll adjustments be disallowed (id.).

Finally, the Attorney General argues that, should the Department find that the post-test-year and rate-year non-union payroll adjustments are known and measurable, and conform with Department precedent, the adjustments should still be disallowed as an appropriate sanction for the Company's mismanagement and failure to fulfill its public service obligation (Attorney General Reply Brief at 42, citing Berkshire Gas Company, D.P.U. 92-210, at 38 (1993)).

iii. The Company

The Company asserts that both its proposed test-year payroll expenses and its proposed adjustments to those expenses are consistent with the Department's clearly-established precedent (Company Brief at 83). In addition, the Company asserts that it has successfully implemented cost containment measures, including a reduction in its workforce, a reduction in overtime expense, and only a minimal increase in annual payroll expenses (id. at 85, n. 64). The Company adds that it is not proposing an adjustment to test-year payroll expenses to account for incentive compensation expenses that were earned, but not paid out, during the test year (id. at 90).

The Company argues that the Department should reject the Attorney General's proposal to exclude promotions from test-year payroll expenses. The Company asserts that, contrary to the Attorney General's contention, test-year payroll expenses reflect all changes in the Company's test-year workforce, including retirements (id. at 86). The Company contends that inclusion of promotions in test year payroll expenses is appropriate and in accordance with Department precedent (id.).

Similarly, the Company argues that the Department should reject the Energy Consortium's proposal to base test-year payroll expenses on the test-year-end, rather than the test-year-average, number of employees (id. at 88). The Company asserts that the Department has previously found that the use of average test-year employment figures appropriately reflects the natural ebb and flow of employment figures over time (id.). The Company further argues that, "when economic conditions improve and circumstances have caused the number of employees at the end of a test year to exceed the average, parties such as the Energy Consortium ... will inevitably call for a return to the use of ... average" figures. (id. at 89-90).

Finally, the Company argues that the Department should reject the Attorney General's proposed reductions in payroll adjustments (Company Reply Brief at 36-37). The Company asserts that, contrary to the Attorney General's contention, it has made an express commitment to its post-test-year and rate-year non-union payroll increases, as demonstrated by the written approval of senior management (Company Brief at 87). In addition, the Company states that it has provided comparative payroll data that indicate that its union and non-union payroll adjustments compare favorably with other utilities in New England, and to other companies in its service territory (id. at 84-85).

c. Analysis and Findings

i. Test Year Payroll Expenses

In the instant proceeding, the Energy Consortium and the Attorney General have proposed adjustments to the Company's test-year payroll expenses. The Energy Consortium recommends that the test-year payroll expenses be based on the test-year-end number of employees rather than the test-year-average. The Department has previously found that the use of test-year-average employment levels recognizes the impact of the natural ebb and flow of employment levels on payroll expenses. Massachusetts Electric Company, D.P.U. 89-194/195, at 19 (1990); Nantucket Electric Company, D.P.U. 88-161/168, at 66 (1989). In D.P.U. 89-194/195, the Department rejected the company's proposal to adjust its test-year payroll expenses to reflect the difference between the test-year-end number of employees and the test-year-average. Id. at 18-19. The Department finds that the Energy Consortium has provided no new information to support the reversal of this precedent. Accordingly, the Department rejects the Energy Consortium's proposal.

The Attorney General recommends that expenses associated with promotions that occurred during the test year be removed from the Company's test-year payroll expenses. The Department has previously found that adjustments to actual test-year payroll expenses are allowed when such adjustments reflect a representative level of test-year expenses. See D.P.U. 88-161/168, at 66. In the instant proccceding, the Department finds that Cambridge has appropriately included both promotions and retirements in its determination of test-year payroll expenses. Accordingly, the Department rejects the Attorney General's proposal.

Based on the above findings, the Department approves the Company's test-year payroll expenses as submitted.

ii. Union Payroll Adjustments

The Department's standard for union payroll adjustments requires that three conditions be met: (1) the proposed increases must take effect before the midpoint of the rate year, Bay State Gas Company, D.P.U. 1122, at 26 (1982); (2) the proposed increases must be known and measurable, i.e., based on signed contracts between union locals and the company, Commonwealth Gas Company, D.P.U. 87-122, at 54-55 (1987), Bay State Gas Company, D.P.U. 92-111, at 98 (1992), Massachusetts Electric Company, D.P.U. 92-78, at 19 (1992); and (3) the proposed increases are demonstrated to be reasonable, D.P.U. 92-78, at 19-20, D.P.U. 92-111, at 98.

The record shows that the Company's proposed adjustments include only those increases that will take effect before the midpoint of the rate year (i.e., before December 1, 1993) and are based on signed union contracts (Exh. CEL-8, Sch. 18-21, Rev.).[10] Accordingly, the Department finds that the Company has satisfied the first two required conditions listed above.

As an aid in determining the reasonableness of union payroll adjustments, the Department requires that companies provide comparative analyses of these adjustments. Both current union payroll levels and proposed increases should be examined in relation to other

10 These unions are: (1) the Brotherhood of Utility Workers of New England, Local 392, whose contract with Cambridge expires June 15, 1995; (2) the Brotherhood of Utility Workers of New England, Local 333, whose contract with Commonwealth Electric expires September 30, 1996; and (3) the United Steelworkers of America, Local 12004, whose contract with Commonwealth Gas was signed on April 1, 1993 and expires March 31, 1996 (Exhs. CEL-8, at 23-26; CEL-38, Att. 3).

New England investor-owned utilities and to companies in a utility's service territory which compete for similarly-skilled employees. D.P.U. 92-111, at 98; D.P.U. 92-78, at 19-20.

To demonstrate the reasonableness of its proposed union payroll adjustments, the Company conducted a survey of the annual union payroll increases incurred by other utilities in New England, and compared these increases with the union payroll increases that it is contractually committed to incur (Exh. CEL-38, Att. 3). The Company did not submit a comparison of its test-year union payroll expenses with the current union payroll expenses of other utilities in New England nor did it submit an analysis comparing its test-year union payroll expenses and proposed adjustments to those of companies in its service territory with which it competes for similarly-skilled employees, as required by the Department.

As noted, to determine the reasonableness of a company's proposed total payroll expenses (i.e., test-year payroll expenses plus proposed adjustments), the Department must examine both its test-year payroll expense and its proposed payroll adjustments. The Department finds that, in the absence of a comparision of the Company's test-year union payroll expenses with the current union payroll expenses of other utilities in New England and with the current payroll expenses of companies in its service territory with which it competes for similarly-skilled employees, the Company failed to demonstrate the reasonableness of its test-year union payroll expenses. Although the comparison presented by the Company appears to indicate that its annual union increases are within the range of increases reported by other New England utilities, in the absence of evidence demonstrating the reasonableness of its test-year union payroll expenses, the Department is not able to determine the reasonableness of the Company's proposed total union payroll expenses.

Accordingly, the Department finds that, based on the information presented in the instant proceeding, the Company has not sufficiently demonstrated the reasonableness of its proposed total union payroll expenses.

The Department notes that the contracts with Union Locals 392 and 333 took effect prior to the Department Orders that established the comparative analyses requirement;[11] accordingly, the Department approves the adjustments associated with these union contracts. However, the current contract with Union Local 12004 was signed on March 31, 1993, after the issuance of these Orders. Based on the fact that the Company had sufficient notice of the importance of demonstrating reasonableness, and our finding in the instant proceeding that the Company did not sufficiently demonstrate the reasonableness of its proposed union payroll expenses, the Department disallows the adjustment associated with the current Local 12004 contract -- an amount of $20,676 (See Exh. CEL-8, Sch. 20, Rev., Line 8).

iii. Non-Union Payroll Adjustments

The Department's standard for non-union payroll adjustments requires that three conditions be met: (1) management has demonstrated an express commitment to grant the increases; (2) a historical correlation between union and non-union raises is established; and (3) the proposed increases are demonstrated to be reasonable. Fitchburg Gas and Electric Company, D.P.U. 1270/1414, at 14 (1983).

To demonstrate its management's expressed commitment to grant the increases, the Company submitted written approval, by senior management, of the 1992 and 1993 non-

[11] These Orders are D.P.U. 92-78, issued on September 30, 1992 and D.P.U. 92-111, issued on October 30, 1992.

union payroll increases (Exh. CEL-40). In accordance with the Department's previous finding that senior management's written approval of payroll increases is sufficient demonstration of an expressed commitment to grant the increases, we find that, in the instant proceeding, an expressed commitment has been demonstrated. To establish a historical correlation between union and non-union annual payroll increases, the Company submitted a comparison of the annual payroll increases for its union and non-union employees over the previous ten years (Exh. DPU-9). The Department finds that Exhibit DPU-9 is sufficient demonstration of the historical correlation between union and non-union annual increases.

As an aid in determining the reasonableness of non-union payroll adjustments, the Department requires that companies provide comparative analyses of these adjustments. Both current non-union payroll levels and proposed increases should be examined in relation to other New England investor-owned utilities and to companies in a utility's service territory which compete for similarly-skilled employees. D.P.U. 92-111, at 103; D.P.U. 92-78, at 25-26.

To demonstrate the reasonableness of its proposed payroll adjustments, the Company submitted four studies comparing its 1992 and proposed 1993 payroll increases for executive, management, and operation personnel with the reported increases of other companies both nation- and region-wide (Exh. CEL-38, Att. 1).[12] In addition, the Company submitted a summary of the results of a 1992 Edison Electric Institute ("EEI") survey comparing the

12 These studies are: (1) "1992/1993 Compensation Planning Survey: National and New England Results", by William M. Mercer; (2) "1993 Salary Management Planning Survey", by Towers Perrin, (3) "Salary Budget Survey, 1992-93", by Wyatt; and (4) "Compensation Planning for 1993", by Coopers and Lybrand.

current salary levels of ComEnergy System's management, administrative, and professional personnel to the current levels of similar employees of other utilities in New England (Exh. CEL-38, Att. 2). The Company did not submit a comparison of its proposed non-union payroll increases to the non-union payroll increases of companies in its service territory with which it competes for similarly-skilled employees, as required by the Department. Neither did the Company submit a comparison of its current non-union payroll expenses to the current non-union payroll expenses of these same companies, also required by the Department.

To determine the reasonableness of a company's proposed total payroll expenses (i.e., test-year payroll expenses plus proposed adjustments), the Department must examine both its test-year payroll expense and its proposed payroll adjustments. Based on the evidence presented in this proceeding, the Department finds that the Company failed to demonstrate the reasonableness of its proposed total non-union payroll expenses in comparison to companies in its service territory with which it competes for similarly-skilled employees. In addition, the Department finds that the Company failed to demonstrate the reasonableness of its proposed non-union payroll adjustments in comparison to other utilities in New England.[13] Finally, although the nation- and region-wide comparisons presented by the Company indicate that the Company's 1992 and 1993 non-union salary increases fall within

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[13] The Department notes that, although the EEI study appears to indicate that the current salary levels of ComEnergy System's non-union employees are in-line with those of other New England utilities, it is not clear that the salary levels of ComEnergy System employees are representative of the salary levels of Cambridge's non-union employees.

the range of increases reported, the Department finds that this analysis does not demonstrate the reasonableness of the Company's proposed total non-union payroll expenses.

Accordingly, the Department finds that, based on the evidence presented in the instant proceeding, the Company has not sufficiently demonstrated the reasonableness of its proposed total non-union payroll expenses. Based on the above finding and the fact that the Company had sufficient notice of the importance of demonstrating reasonableness, the Department disallows the Company's proposed payroll adjustments associated with its 1993 non-union payroll increases -- an amount of $224,256.[14]

3. Healthcare Expenses

a. The Company's Proposal

The Company offers its employees Blue Cross Blue Shield Master Medical Insurance ("BCBS") and Delta Dental Insurance, and pays 100 percent of its employees' insurance premiums.[15] The Company has incurred test-year health-care expenses of $1,697,437: (1) $1,501,724 for BCBS; (2) $139,963 for Delta Dental; and (3) $55,750 for Medicare (RR-DPU-26). The Company is not requesting an adjustment to its test-year health-care expenses.

To demonstrate the reasonbleness of its test-year health-care expenses, the Company

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14 This disallowance is comprised of: (1) $72,670 for Cambridge non-union employees; (2) $93,679 for Commonwealth Electric non-union employees; (3) $3,887 for Commonwealth Gas non-union employees; and (4) $54,020 for Services Company non-union employees (Exh. CEL-8, Sch. 18-21, Rev.).

15 For a description of the insurance plans, and the required deductibles and co-payments, see Exhibits AG-126, AG-127, and CEL-76.

submitted two studies: (1) a comparison of its BCBS expenses with the expenses of four Massachusetts electric companies with similar BCBS coverage, prepared by BCBS (Exh. CEL-42); and (2) an analysis of the expenses associated with offering its employees various Health Maintenance Organization ("HMO") coverages (RR-DPU-27, RR-DPU-30).[16]

b. Positions of the Parties

i. The Attorney General

The Attorney General argues that the Company has not made a sufficient effort to reduce its health-care costs (Attorney General Brief at 80-81). The Attorney General contends that, as a result, the Company's per-employee health-care costs equal $6,080, an amount that is significantly higher than the $3,699 per-employee health-care costs reported by Boston Edison Company ("BECo") and the $2,652 per-employee health-care costs Massachusetts Electric Company ("MECo") (id.).

The Attorney General contends that, although the Company produced a list of its cost-containment efforts, these efforts merely address savings available while retaining only one expensive form of medical coverage, BCBS (id. at 82). The Attorney General asserts that the Company has not sought competitive bids from other health-care insurers (id. at 20), and has not actively considered introducing employee premium contributions, as required by the Department, even though the Company recognizes that these contributions are a viable

16 The Company testified that it has requested comparative health-care expense data, on a region-wide basis, from the Edison Electric Institute ("EEI"), but EEI had not yet provided the requested data (RR-AG-97).

method of containing health-care costs (id., citing Nantucket Electric Company, DPU 91-106/138, at 54 (1991); Attorney General Reply Brief at 28).

The Attorney General asserts that the record in the instant proceeding shows that the Company "has not performed any surveys regarding health care coverage of employers that would serve similarly skilled workers in its service territory" and "has not performed any formal surveys of other Massachusetts ... companies regarding dental insurance" (id. at 20). The Attorney General contends that the comparative analysis prepared by BCBS is inadequate because the comparison group consists of four other electric companies with similarly expensive BCBS health care coverages (id. at 82-83). In addition, the Attorney General argues that the Company's study analyzing the costs associated with HMO plans is inadequate because: (1) the study was performed in 1988 and, thus, is outdated; (2) the Company did not update the cost analysis in 1990, as recommended by the study; and (3) the assumptions used by the Company in the study are questionable (id. at 83-84). Finally, the Attorney General argues that the Company has provided no evidence supporting its claim that other Massachusetts utilities offer dental insurance (id. at 85).

In conclusion, the Attorney General asserts that, because the Company has not taken sufficient steps to control its health-care costs, and is not contractually bound to pay 100 percent of the health care and dental costs for its non-union employees, the Department should not require the Company's ratepayers to pay 100 percent of the health-care costs for these employees (id. at 84). The Attorney General recommends that the Department reduce the Company's test-year BCBS and dental costs for its non-union employees by 20 percent (id. at 84-86).[17]

ii. The Company

The Company asserts that it has acted reasonably to contain and reduce its health-care costs and contends that the Management Audit of Commonwealth Electric found its cost-containment efforts to be impressive (Company Brief at 106-108). The Company notes that it has not requested an adjustment to its test-year expenses, even though annual increases in health-care costs can be significant and the Department has previously allowed such adjustments (id., citing Berkshire Gas Company, DPU 92-210, at 43-44 (1993)).

The Company contends that the two health-care cost studies it submitted in this proceeding, the BCBS cost comparison and the HMO cost analysis, demonstrate the reasonableness of its health care costs (id. at 108-109). The Company asserts that, based on its evaluation of the costs of HMO coverages, it has determined "that its best course is to stay with its present plan, continue to monitor alternatives and seek to reduce costs in other ways" (id. at 110). The Company contends that, "regarding additional employee contributions to health-care expenses, ... [it] is constrained by union contracts and the sound management policy of having general parity between union and non-union benefits" (id. at 109).

The Company refutes the Attorney General's contention that the Company's per-employee health-care costs are higher than those reported by BECo and MECo (id.).

[17] The Attorney General contends that the 20 percent reduction in allowed dental expenses is supported by the fact that the Company provides 100 percent coverage for most dental fees, but only 80 percent coverage for most medical expenses (Attorney General Reply Brief at 30).

The Company asserts that: (1) when the calculations are done on a comparable basis, its per-employee health-care costs are comparable to BECo's; and (2) because the Attorney General provided no supporting documentation for MECo's per-employee health-care costs, the comparison is of little value (id.). Further, the Company contends that the record shows that at least two other Massachusetts utilities, BECo and MECo, offer dental insurance (Company Reply Brief at 44).

In conclusion, the Company argues that, because there is no record basis for the Attorney General's proposed 20 percent disallowance of test-year medical and dental expenses, the Department should reject the proposal (Company Brief at 111-112).

c. Analysis and Findings

The issue to be decided here is the reasnoableness of the Company's health-care expenses. The Department has stated previously that it is reasonable to expect all utilities, in an era of rapidly increasing health-care costs, to concentrate their efforts on health-care cost containment. D.P.U. 91-106/138, at 53. As an aid in determining the reasonableness of health-care expenses, the Department requires companies to provide comparative analyses, in which each company's health-care expenses would be examined in relation to other New England investor-owned utilities and to companies in a utility's service territory which compete for similarly-skilled employees. Bay State Gas Company, D.P.U. 92-111, at 108 (1992); Massachusetts Electric Company, D.P.U. 92-78, at 30 (1992).

The Company did not submit a comparison of its health-care costs with those of companies in its service territory which compete for similarly-skilled employees (RR-DPU-31). The Company also did not submit the required comparison of its health-care costs with those of other New England utilities; the BCBS survey simply indicates that the medical costs incurred by the Company are reasonable in comparison with four other Massachusetts utilities with similar medical coverages (Exh. CEL-42). Additionally, although the HMO cost analysis indicates that the expenses associated with offering its employees various HMO coverages may exceed the medical expenses currently incurred by the Company, the Department finds that this analysis does not demonstrate the reasonableness of the Company's health-care expenses. Finally, with regard to the reasonableness of its dental costs, the Company simply asserts that "it is aware that most New England utility companies provide dental insurance for their employees," with no supporting documentation. Accordingly, the Department finds that the Company has not demonstrated the reasonableness of its test-year health-care expenses.

In the instant proceeding, the Company has not requested an adjustment to its test-year health-care expenses. However, the Company's test-year health-care expenses are included in the residual Operations and Maintenance ("O&M") expenses[18] that are adjusted for inflation. Based on our finding that the Company failed to demonstrate the reasonableness of its test-year health-care expenses, the Department will remove the Company's non-union test-year health-care expenses from the residual O&M expenses -- $245,820[19] -- for the purposes of calculating the Company's inflation allowance (See

[18] Residual O&M expenses are those O&M expenses for which the Company has not proposed a separate adjustment in its cost-of-service.

[19] This amount is calculated based on test-year health-care expenses of $4,820 per employee that are included in the Company's cost-of-service (Exh. AG-129) and an average test-year level of 51 non-union employees (Exh. DPU-10, at 2)

Section III.H, below).

With regard to the Attorney General's proposal to disallow 20 percent of the Company's non-union test-year medical and dental expenses, the Department finds that there is no record evidence to support the specified disallowance; accordingly, the Department rejects the Attorney General's proposal.

4. <u>Miscellaneous Employee Benefits Expenses</u>

a. <u>The Company's Proposal</u>

The Company proposed to include $15,529 in test-year employee benefit expenses in its cost of service, comprised of $1,830 for employee adoption expenses, $2,028 for approved employee fitness programs, $9,668 for overtime meal expenses, and $2,003 for educational aid programs (RRs-AG-72-75).

b. <u>Positions of the Parties</u>

i. <u>The Attorney General</u>

The Attorney General argues that reimbursement of employee adoption expenses, employee fitness programs, overtime meal expenses and educational aid programs are not needed to attract and retain qualified employees given the wages and benefits already provided by the Company (Attorney General Brief at 86-87). Accordingly, the Attorney General asserts that the expenses associated with these special benefits should be removed from the cost of service (<u>id.</u>).

ii. <u>The Company</u>

The Company argues that the employee benefit expenses in question are reasonable, thus, the Attorney General's argument should be rejected. The Company asserts that the overtime meal expense is required by union contract (Company Brief at 91). The Company argues that the adoption benefit is a matter of fairness to employees who adopt because the Company's health plans provide maternity benefits but not adoption benefits (id. at 92). The Company contends that the educational aid benefit pertains to courses related to an employee's job within the Company, thus, it results in more qualified employees (id.). The Company asserts that the fitness program results in healthier employees (id. at 91-92). Therefore, the Company maintains the $15,529 in employee benefit expenses should be allowed in its cost of service (id.).

c. Analysis and Findings

Employee benefit expenses should be considered as part of a total compensation package. In this case, the Department finds the $15,529 in test-year employee benefit expenses to be reasonable. However, as discussed in Section IV.A.7, below, the Department directs the Company in its next rate case to provide an analysis of its employees' total compensation expenses.

5. Savings Plan Matching Contribution

a. The Company's Proposal

The Company provides a savings plan that matches up to 4 percent of an employee's salary (Exh. AG-126, at 2). Cambridge included $377,674 of test-year savings plan expenses in its cost of service (id.).

b. Positions of the Parties

i. The Attorney General

The Attorney General argues that the Company should remove 25 percent or $94,419 of the Company's test-year savings plan matching contribution from the cost of service because the total benefit amount is excessive and not needed to attract qualified employees (Attorney General Brief at 87).

ii. The Company

The Company states that savings plan contribution programs are typical in the utility industry and have been allowed regularly by the Department (Company Brief at 91, citing Commonwealth Electric Company, D.P.U. 88-135/151, at 68 (1989)). Accordingly, the Company asserts that the entire amount of this expense should be allowed in its cost of service. In addition, the Company argues that there is no record basis for the Attorney General's claim that such expense is excessive and, therefore, the Attorney General's arbitrary 25 percent reduction should be rejected (id.).

c. Analysis and Findings

The Department has allowed test-year expenses for savings plans that match up to four percent of an employee's salary. Commonwealth Electric Company, D.P.U. 88-135/151, at 64-70 (1989).[20] In addition, the Department finds there is no record basis to adopt the Attorney General's proposal to remove 25 percent of the savings plan expense. Accordingly, the Department finds the test-year savings plan expense of $377,674 shall be allowed in the Company's cost of service. However, as discussed in Section IV.A.7, below, the Department directs the Company in its next rate case, to provide an

[20] In Commonwealth Electric Company, D.P.U. 88-135/151 (1989), the Department allowed the test year expenses but denied recovery for increases above the amount booked in the test-year. Id. at 68.

analysis of its employees' total compensation expense.

6. Post Retirement Benefits Other Than Pensions

a. The Company's Proposal

The Company seeks a $1,317,876 adjustment to its test-year Post Retirement Benefits other than Pensions ("PBOP") expense to reflect, in rates, the maximum tax deductible contribution component of this expense when calculated in conformance with the Financial Accounting Standards No. 106 ("FAS 106") (Exh. CEL-9, Schs. 25-27, Rev.). This amount consists of $949,107 for Cambridge, $282,752 for Commonwealth Electric, and $86,017 for the Service Company (id.). The Company proposes to fully fund its PBOP obligations without a phase-in, since the PBOP expense it proposes to include in rates is equal to its entire annual FAS 106 expense (Exhs. CEL-39, at 4; DPU-45; Tr. 12 at 39).[21] This results from the manner in which the Company funds its PBOP obligation -- using the Section 401(h) sub-account of its pension plan and two Voluntary Employee Beneficiary Associations ("VEBA") trusts (Exh. CEL-39, at 4-5).

b. Positions of the Parties

i. The Attorney General

The Attorney General asserts that the Department should require the Company to

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[21] The Hearing Officer approved a joint motion between the Company and the Attorney General to incorporate into this docket the record in Massachusetts Electric Company, D.P.U. 92-78 (1992) that pertains to this docket. In D.P.U. 92-78, the Department allowed a change from the pay-as-you-go ratemaking treatment of PBOP expenses to the accrual method prescribed under FAS 106 and allowed only recovery of the maximum I.R.S. tax-deductible portion of the company's total PBOP obligation.

calculate and fund its PBOP obligations in accordance with Massachusetts Electric Company, D.P.U. 92-78 (1992), which would entitle the Company to phase-in the IRS maximum tax-deductible portion of its FAS 106 expense over a four-year period (Attorney General Brief at 78; Attorney General Reply Brief at 41).

The Attorney General maintains that, as in D.P.U. 92-78, a phase-in of this expense is beneficial to ratepayers because (1) it limits the incentive for a regulated company to inflate its estimated PBOP costs and thus its rates; and (2) PBOPs represent 13 percent of Cambridge's alleged revenue deficiency, thus justifying the same treatment as ordered in D.P.U. 92-78 where PBOPs represented 22 percent of the requested rate increase and five percent of the increase granted (Attorney General Reply Brief at 39-40).

Further, the Attorney General contends that a phase-in of the adjustment would allow the Department to revisit the uncertainties associated with the estimation of the Company's PBOP liability, including the Company's future efforts to contain health care costs and the impact of federal health care initiatives on the Company (id. at 41). According to the Attorney General, a phase-in similar to that required in D.P.U. 92-78 would amount to a $329,469 total adjustment to the Company's cost of service (Attorney General Brief at 78).

ii. The Company

The Company maintains that, contrary to the Attorney General's contentions, it has complied with Department precedent and accordingly should be allowed to recover its proposed PBOP adjustment with no phase-in (Company Brief at 98). The Company indicates that it did not propose to phase-in its PBOP obligation because (1) the PBOP adjustment only represents one percent of its operating revenues; (2) phasing-in this expense over four years would result in an additional $1.6 million in carrying charges to be paid by ratepayers over a ten year period; and (3) the expense amount is representative of the actual level of expenses it will require annually to fund its PBOP obligations for the foreseeable future (id. at 98-99, citing Bay State Gas Company, D.P.U. 92-111 (1992)).

The Company asserts that if the Department authorizes a phase-in, it should be allowed carrying charges based on the allowed rate of return on any deferred amounts resulting from the phase-in (id. at 99). Even if no phase-in is required, the Company asks the Department to allow recovery of all tax-deductible PBOP costs (plus carrying charges) in excess of the amounts allowed in its cost of service that the Company funds between rate cases. According to the Company, the Department allowed this type of recovery in D.P.U 92-111 (id. at 99-100, citing D.P.U. 92-111, at 227).

Further, the Company asserts that it has addressed many of the Department's concerns regarding FAS 106 raised in D.P.U. 92-78 and D.P.U. 92-111. The Company contends that its choice of funding vehicles maximizes available tax benefits, and thus reduces overall PBOP costs (id. at 100). Additionally, the Company asserts that it has instituted a FAS 106 cost containment strategy that includes (1) co-payments of health care premiums from non-union employees who elect early retirement and (2) a limit on the number of non-union employees that may qualify for PBOPs (id. at 103). Lastly, with regard to the Attorney General's argument that the Company has not addressed some "uncertainties" in its filing, the Company maintains that FERC has found the actuarial assumptions established in FAS 106 to possess certain self-correcting features to minimize any discrepancies between projected and actual FAS 106 expenses (id. at 104, citing New

England Power Company, FERC Opinion No. 379). These self-correcting features require that "actuarial assumptions and calculations be updated to reflect changes in plan benefits, earnings assumptions and inflation rates". In addition, the Company maintains that, beginning in 1993, FAS 106 will require public reporting on all assumptions used in projecting the annual FAS 106 accrual amount (id.).

c. Analysis and Findings

In response to FAS 106, the Department must decide what portion of the current and future PBOP obligation will be recovered through current rates. As a preliminary matter, the Department has previously held that financial accounting standards do not automatically dictate ratemaking treatment. D.P.U. 92-78, at 79-80; D.P.U. 92-111, at 223; Western Massachusetts Electric Company, D.P.U. 85-270, at 118-119 (1986). The Department is charged with setting just and reasonable rates for companies within our jurisdiction, and we cannot permit accounting standards alone, whether or not accepted by the Financial Accounting Standards Board, to determine our treatment of expenses. D.P.U. 92-78, at 80; Bay State Gas Company, D.P.U. 89-81-A at 33 (1989); Western Massachusetts Electric Company, D.P.U. 85-270, at 118-119 (1986).

In balancing the interests of the Company's shareholders and ratepayers on this issue, the Department considered the Company's obligations under FAS 106, the ratemaking treatment the Company is currently receiving for PBOP expense, the uncertainties associated with estimating that obligation, the financial risks of alternative types of recovery, and the need for flexibility to respond to these uncertainties.

The Company's FAS 106 estimate is derived from an actuarial study which is based on many assumptions. The Department has serious concerns regarding the uncertainties surrounding FAS 106, especially regarding the impact of several potentially volatile factors, including: the inflation, discount and investment rates; medical cost predictions; and medical trend assumptions. In addition, the potential for government intervention in the health care field and future technological changes give rise to enormous uncertainties regarding the future level of the Company's PBOP obligation. D.P.U. 92-111 at 224-225. Furthermore, while a non-regulated company has an incentive to reflect as small an expense as possible for PBOP costs, the reverse is true for a regulated company. D.P.U. 92-78, at 82. The Department recognizes that this accounting change results in additional expense for the Company. The full FAS 106 expense proposed by the Company is one of the largest single adjustments proposed in this case (Exh. CEL-9, Schs. 25-27, Rev.).

In certain respects, the Department is faced with a decision related to the timing of expense recovery. At the same time, it is possible that a standard which underrepresents likely future obligations and which fails to take advantage of tax benefits will lead to higher costs over the long term. Therefore, we must assess the alternatives for ratemaking treatment of the FAS 106 obligation to determine the most reasonable way to balance ratepayer and shareholder interests.

In D.P.U. 92-111, the Department found that:

> ... [F]unding the tax-deductible amount strikes the best current balance of these interests. This approach acknowledges that the Company will have some level of PBOP obligation beyond a pay-as-you-go level. It further provides assurances that funds provided by ratepayers will be safeguarded and retained for payment of employee benefits. It also addresses, at least partially, the goal of matching employee benefits with the period in which they are earned.... Finally, funding the tax-deductible amount provides short-term incentives to

> the Company to take advantage of tax benefits to lower its ultimate overall PBOP costs. In the longer term, this methodology gives the Company and the Department the flexibility to revisit the FAS 106 issue as information which may resolve the uncertainties and concerns noted above becomes available.
>
> Id. at 226.

In order to mitigate the revenue requirement impact, the Department finds that a four-year phase-in to the full tax deductible amount is appropriate. Therefore, the Department will include an adjustment of $329,469 ($1,317,876/4) for FAS 106 expenses. This amount represents the total contribution for Cambridge, Commonwealth Electric, and the Service Company.

The Department encourages companies to take optimum advantage of the benefits attendant to the funding of PBOPs. Tax-free accumulation of assets in a trust with appropriate safeguards should ultimately result in lower overall PBOP costs for ratepayers. The Company may defer the difference between the amount recovered in rates and the tax-deductible amount it actually funds, plus carrying costs based on the allowed rate of return in this case, for consideration in the Company's next rate case. The Department further directs that these amounts be placed in trusts specifically designed to provide for the payment of employee PBOPs. D.P.U. 92-111, at 227; D.P.U. 92-78, at 84.

7. Total Employee Compensation Expenses

In a competitive market environment, companies seek to operate in a manner that ensures that their costs per unit of product are minimized. To do this, companies must offer their employees a level of overall compensation that is sufficiently high to attract and retain employees, but not so high, relative to these employees' productivity, that their products are uncompetitively priced.

In a regulated monopoly environment, such as the one in which utilities operate, companies compete with other regulated and non-regulated companies to attract and retain employees. Accordingly, regulated monopolies must offer employee compensation packages that are competitive with these other companies. However, regulated monopolies are not subject to the same level of product competition that creates the downward pressure on employee compensation expenses in a competitive market environment. Instead, regulators review a company's employee compensation expenses to ensure the reasonableness of such expenses.

In this Order, the Department has made findings on the reasonableness of the expenses associated with each component of the Company's employee compensation package. In Berkshire Gas Company, D.P.U. 92-210 (1993), however, the Department stated that, in determining the reasonableness of a company's employee compensation expenses in future cases, we will review the company's overall employee compensation expenses to ensure that its employee compensation decisions result in a minimization of unit-labor costs.[22] Id. at 34. This approach recognizes that the different components of compensation (e.g., wages and fringe benefits) are, to some extent, substitutes for each other, and that different combinations of these components may be used to attract and retain employees. In future rate cases, companies will be required to demonstrate that their total unit-labor costs are minimized in a manner that is supported by their overall business strategies. However, the

22 The Department notes that the Company's filing in the instant proceeding was submitted prior to the issuance of D.P.U. 92-210.

individual components of a company's employee compensation package will be appropriately left to the discretion of the company's management.

To enable the Department to determine the reasonableness of a company's total employee compensation expenses, companies will be required to provide comparative analyses of their employee compensation expenses in future base-rate cases. Both current total compensation expense levels and proposed increases should be examined in relation to other New England investor-owned utilities and to companies in a utility's service territory which compete for similarly-skilled employees.

In addition, to the extent possible, companies will be required to provide productivity (i.e., output per worker-hour, or a similar index) comparisons. This will enable the Department to evaluate whether a higher-valued compensation package is associated with correspondingly higher productivity. If this association exists, the resulting unit-labor costs may be minimized, notwithstanding the higher compensation, thus benefiting ratepayers.

The Department will review the comparative analyses of both the employee compensation expenses and the productivity levels in our determination of the reasonableness of the total employee compensation expenses included in a company's cost-of-service.

B. Depreciation Expense

1. The Company's Proposal

During the test year, the Company booked $3,585,653 in depreciation expense (Exh. CEL-9, Sch. 29, at 1). Cambridge proposed to increase its test year depreciation expense by $285,293 (id.).[23] The Company computed the adjustment by applying account-specific accrual rates to the test year-end depreciable plant (id.). In support of its proposed depreciation adjustment, the Company presented a depreciation study which used plant data as of December 31, 1991, and employed the remaining life method to estimate the proposed depreciation accrual rates (Exh. CEL-4, at 2).[24]

Cambridge used two approaches, one for location plant and one for mass plant, to determine average lives and average remaining lives ("ARL") for plant assets as of December 31, 1991 (id. at 4-5).[25] For location plant, Cambridge estimated a retirement date of 2008 for Kendall Station[26] and a demolition adder of $1,829,600 consisting of two components: (1) net removal costs of $660,000 on interim retirements (i.e., plant items that will be retired prior to the deactivation of Kendall Station); and (2) an estimated demolition cost of $1,169,600, or $17.35 per KW, based on actual experience associated with the

23 During the test year, the Company booked $3,632,628 in depreciation expense, using a 2.63 percent composite depreciation rate that was proposed and accepted as part of the settlement in Cambridge Electric Light Company, D.P.U. 89-109 (1989).

24 The Company's depreciation study was performed by James H. Aikman, vice president/treasurer of Management Resources International (Exh. CEL-4, at 1-2).

25 Location plant represents distinct equipment groups at a specified geographical location which will be retired at the same time, such as an electric generating station. Mass plant accounts represent differing property units with no specific location or directly-connected functional relationships, such as poles and meters (Exh. CEL-5, App. A at 4-6).

26 The Company's Blackstone Street Station is fully depreciated; therefore, no accrual rates were developed for this facility (Exh. CEL-5, at IV-1; Tr. 11, at 12).

retirement of 18 similar power plants (Exhs. CEL-5, at IV-2; CEL-6, at 64; Tr. 11, at 31).[27] This resulted in a negative salvage value of nine percent for Kendall Station (id.).

For mass plant accounts (Transmission, Distribution, and General Plant), the Company applied actuarial analysis techniques to measure the historical average service lives (Exh. CEL-4, at 3). In the case of Account 370 (Meters), the Company had only recently developed actuarial data (Exh. CEL-5, at IV-11). Therefore, the Company determined that it had insufficient retirement experience on which to apply an actuarial analysis (id.). Therefore, Cambridge relied on simulated data to derive the service lives for these accounts (id.; Tr. 11, at 20).

Next, Cambridge compared the data to a set of Iowa curves[28] to determine average service lives ("ASLs") for each account (Exh. CEL-4, at 4). The Company then evaluated the resulting service lives and made adjustments where it deemed appropriate (id. at 6-7). From the resulting ASLs, Cambridge calculated depreciation rates.

Based on the results of its study, Cambridge summarized its proposed depreciation rates as follows:

Steam Production Plant	2.36 percent
Other Production Plant	1.54 percent
Transmission Plant	2.37 percent

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27 The Company reported that its demolition adder was synonymous with negative net salvage value (Tr. 11, at 31).

28 Iowa curves are frequency distribution curves initially developed in the 1930s at Iowa State University and widely accepted in determining average life frequencies. There are 28 different Iowa curves, each identified by their particular dispersion characteristics (Exhs. CEL-4, at 4; CEL-5, App. A at 10-11).

Distribution Plant	3.23 percent
General Plant	2.78 percent

Exh. CEL-5, Table 1.

While the Company's depreciation study data base was predicated on a year ending December 31, 1991, Cambridge applied the results of the study to its total utility plant as of June 30, 1992, claiming that updating the study to reflect test year-end plant investment would not have produced materially different results (id. at III-1). The Company proposed a total depreciation and amortization expense of $3,917,921 (Exh. CEL-9, Sch. 29, at 3).

2. Positions of the Parties

a. The Attorney General

The Attorney General contends that many of the Company's recommended depreciation rates are supported by neither statistical analyses nor engineering judgment (Attorney General Brief at 59). Specifically, he argues that the Department should: (1) reject Cambridge's life span projections for its Kendall plant; (2) disallow the Company's request for a demolition cost adder; and (3) reject those proposed depreciation accrual rates that he contends are not supported by the record (id.). The Attorney General recommended that the results of the depreciation study be applied to the Company's December 31, 1991 plant balances instead of test year-end balances (id. at 63, n.67).

The Attorney General takes issue with the Company's use of a retirement date of 2008 for the Kendall Stations. First, the Attorney General notes that Cambridge's reported retirement date of 2008 for Kendall Station represents an estimate supplied by Company personnel (id. at 63). The Attorney General argues that this date is significantly shorter than the date of 2018 used by the Company and Commonwealth Electric in their 1990 Long Range Forecast of Electric Power Needs and Requirements prepared for the Energy Facilities Siting Council ("EFSC")[29] (id. at 63-64, citing Exh. AG-124, Table 5). Moreover, the Attorney General observes that the Company's proposed deactivation date for Kendall Station is shorter than the "indefinite" status assigned in Com/Electric's April 15, 1992 Integrated Resource Management ("IRM") filing with the Department (Attorney General Brief at 64, citing Exh. AG-125, Table 4). The Attorney General infers that based on the IRM filing, Kendall Station would not be retired until the year 2023 at the earliest (id.).

The Attorney General objects to the proposed inclusion of $1,200,000 in demolition costs with the salvage costs for the Kendall Station (id. at 65). The Attorney General contends that the demolition of this station is too remote in time to warrant inclusion of demolition costs, particularly given that the ultimate disposition of Kendall Station is speculative (id. at 65-66). To support this argument, the Attorney General notes that although the Company's Blackstone Station was fully depreciated several years ago, Cambridge is currently exploring the possibility of renovating a number of buildings at that facility (id. at 66). Moreover, the Attorney General claims that the addition of a demolition adder to Kendall Station suggests a unilateral determination by the Company with respect to future resource planning, in contravention of current resource planning practices and the Department's IRM process (id.).

29 The EFSC is now incorporated into the Department as the Energy Facilities Siting Board. For purposes of clarity, the Department will use the former name when referring to the 1990 study.

Regarding Cambridge's proposed depreciation rates for mass plant accounts, the Attorney General takes exception with the recommended service lives for certain accounts. The Attorney General argues that the Department has rejected arbitrary limits on data in depreciation studies (Attorney General Reply Brief at 37, citing Eastern Edison Company, D.P.U. 1130, at 17 (1982); Commonwealth Gas Company, D.P.U. 1120, at 42-43 (1982); Boston Gas Company, D.P.U. 1100, at 88 (1982)). The Attorney General acknowledges that, while the Company's data may suggest a change in salvage values, there is insufficient record evidence to support a change from currently approved values (Attorney General Brief at 68).

While the Attorney General urges the Department to examine closely all changes in salvage value since the Company's previous study, he focuses specifically on two accounts (Attorney General Reply Brief at 37). First, the Attorney General contends that in its review of Account 367 (Underground Conductors and Devices), the Company disregarded Department policy by improperly relying on only three years of net salvage data to substantiate its proposed increase in net salvage (Attorney General Brief at 68). Likewise, the Attorney General argues that the Company's proposed increase in salvage from zero percent to a negative fifteen percent for Accounts 370.71 and 370.72 (Meter Equipment and Installations) is based only on three years of experience during a time when large retirements were occurring as a consequence of the introduction of electronic meters (id. at 69). The Attorney General maintains that this is insufficient data to support a change in salvage values (id.).

b. The Company

Cambridge criticizes the Attorney General for his "mechanical" approach to the Company's depreciation study, and contrasts the Attorney General's "selective and simplistic" methods with the experience and judgment of its depreciation witness (Company Brief at 73-74). Cambridge maintains that Company personnel were consulted on the expected deactivation date of Kendall Station (id. at 80). The Company contends that its proposed accrual rate is based on the best estimate of service life and suggests that this may be a conservative estimate given the implementation of the federal Clean Air Act (Company Reply Brief at 33).

The Company argues that the planning analyses cited by the Attorney General are immaterial, because the retirement date provided in those reports goes beyond the planning period encompassed by the study, and was consistent with EFSC regulations in effect during that period (Company Brief at 81; Company Reply Brief at 34). Moreover, the Company contends that the 1990 EFSC filing predates the 1990 Amendments to the Clean Air Act, the final promulgation of IRM regulations, and the ongoing recession (Company Brief at 81). Cambridge asserts that these developments, which it claims result in shorter lives for older generating units, make it unlikely that the earlier retirement dates reported to the EFSC would continue to be applicable (id.).

Turning to the 1992 IRM filing, the Company first argues that the information relied on by the Attorney General is ambiguous (id. at 81-82). Furthermore, Cambridge argues that because additional capacity was not required until the year 2004, no full life extension and repowering analysis was provided in the filing (id.). Cambridge contends that under the

IRM regulations, this omission made the designation of a Kendall Station retirement date as "indefinite" the only appropriate one (id. at 82).

Addressing the demolition cost estimates for Kendall Station, the Company argues that the Attorney General has provided no evidence to suggest that the station could be renovated for any purpose (id.). Moreover, Cambridge reasons that it is unlikely that a generating plant would be permitted to remain in the Kendall Square area, claiming that the area is undergoing significant transformation (id.).

Regarding salvage values, Cambridge argues that there is no evidence that the values derived in its last rate case for this account are more reliable than more recent experience would indicate, because the previous study did not have account-specific retirement data available (Company Brief at 76; Company Reply Brief at 35). Furthermore, the Company contends that the Attorney General fails to address the engineering analysis underlying the Company's recommended salvage values (Company Brief at 76-77). Cambridge argues that the cases cited by the Attorney General are not applicable here, because those cases involved forced constraints on service lives, and were not related to salvage values (Company Reply Brief at 35).

In addressing specific accounts, Cambridge indicates that its actual experience with Account 367 for the past three years results in an average negative salvage value of 32 percent, and that it tempered the results of the actuarial analysis with well-founded engineering judgment (Company Brief at 76). Turning to the issue of the salvage values proposed for Account 370, Cambridge argues that there is no longer a positive salvage market for meters; it notes that during the past three years this account has experienced an average negative salvage value of 42 percent (id. at 78). The Company contends that it took full consideration of the statistical analyses and engineering expertise in refining the results of the actuarial analysis (id. at 78-79). Finally, the Company argues that the Department should reject the Attorney General's attempt in his reply brief to challenge other salvage value calculations, as being raised too late in the proceedings (Company Reply Brief at 36).

3. Analysis and Findings

a. Standard of Review

Depreciation studies rely not only on statistical analysis but also on the judgment and expertise of the preparer. The Department has held that where a witness reaches a conclusion about a depreciation study which is at variance with that witness's engineering and statistical analysis, the Department will not accept such a conclusion absent sufficient justification on the record for such a departure. Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80 Phase One at 54-55 (1991); Commonwealth Electric Company, D.P.U. 88-135/151, at 37 (1990). The Department will continue to look to the Company's expert witness for interpretation of the statistical studies presented but will continue to consider cross-examination and expert testimony to the contrary. D.P.U. 90-331, at 54. It is also necessary to go beyond the numbers presented in a depreciation study and consider the underlying physical assets. Berkshire Gas Company, D.P.U. 905, at 13-15 (1982); Massachusetts Electric Company, D.P.U. 200, at 21 (1980).

In keeping with this precedent, we will now review those instances in which the Company indicated that the proposed accrual rates differed from the results of the engineering and statistical studies. Such an examination necessitates review of the forecast analysis is used for Kendall Station, the simulated plant record analyses used for Account 370, the actuarial life analyses, and the salvage values/cost of removal analyses.

b. Kendall Station

The Company's depreciation study is premised on a deactivation date of 2008 for Kendall Station (Exh. CEL-5, at IV-2). Conversely, the 1990 EFSC filing reports a retirement date of 2018 for Kendall Station (Exh. AG-124, Table 5). Therefore, the Department must determine the appropriate retirement date. As an initial matter, the Department concurs with the Company that because no life extension analyses were provided in the 1992 IRM filing, it was appropriate for Cambridge to assign an indefinite deactivation date to Kendall Station as part of the IRM filing. See 220 C.M.R. 10.03(9)(b). Accordingly, the Department will not consider the Attorney General's extrapolation from the IRM filing of a 2023 retirment date for Kendall Station in its review.

No final order concerning the Company's 1990 EFSC filing was issued by the EFSC, and thus the filing made in that proceeding provides no factual basis on which to determine the validity of the retirement date of 2018. As a result, the Department finds that the Attorney General has failed to sustain his argument that Kendall Station will be retired in the year 2018. In deriving its depreciation accrual rate for Kendall Station, the Company furnished its depreciation witness with a projected deactivation date of 2008, based on Cambridge's estimated life for Kendall Station (Exh. CEL-5, at IV-1). Accordingly, the Department accepts the proposed retirement date of 2008 for Kendall Station.

It is appropriate, however, for the Department to further comment on the issue of retirement dates for generating plant presented by utilities in their IRM filings. If a utility's supply forecast analyses are to be relied upon, it is necessary that the forecasted retirement dates for generating plant coincide with the anticipated retirement date used for depreciation accruals. Accordingly, the Department directs utilities to determine the service lives of their generating facilities presented in their IRM filings in a manner consistent with the analysis used to determine the service lives of these plants for depreciation purposes.

Concerning the Company's use of a demolition adder, the Department considers a demolition adder to be identical to negative net salvage value. The determination of Kendall Station's salvage value is open to subjective analysis because the cost to demolish or retire the facility cannot be known until the actual event occurs. Therefore, the Department has accepted the use of estimates in calculating the salvage value associated with specific location plant. Boston Edison Company, D.P.U. 1720, at 44 (1984); Boston Edison Company, D.P.U. 1350, at 109 (1983). The Department finds that the Company has made a reasonable effort to develop the cost of demolition for Kendall Station (Exh. CEL-6, at 64; Tr. 11, at 48-51). Accordingly, the Department accepts Cambridge's proposed demolition estimate for Kendall Station.

c. Mass Plant Account Salvage Values

Unlike the Company's ASL and dispersion curve calculations, the selection of salvage values is more subjective. This is because salvage values are theoretically intended to reflect some future market price, which cannot be known until the actual retirement occurs (Exh. CEL-5, App. A at 43). Whenever there is insufficient data regarding salvage values, it is necessary to exercise reasoned judgment in the determination of salvage values. D.P.U. 1350, at 109. Accordingly, the Department shall examine the judgment and expertise relied on by Cambridge in determining the salvage values applied in its depreciation study.

i. Account 361 (Distribution Structures and Improvements)

The Company proposed a 40-year ASL and R3.0 dispersion curve for this account, as well as a net salvage value of negative 15 percent (Exhs. CEL-5, at IV-6; CEL-6, at 69). As a result, Cambridge proposed an accrual rate for this account of 2.86 percent (Exh. CEL-5, at IV-6).

The results of the salvage studies performed by the Company indicated a negative 39.42 percent salvage value (Exh. CEL-6, at 67). The notes provided as part of the study demonstrate that the Company's recent limited experience with this account may not produce a reliable salvage value calculation (id.). The Department finds that the Company has failed to substantiate that a change in salvage values for this account is justified. Accordingly, Cambridge is directed to retain the existing salvage value of negative 10 percent for this account. This results in an accrual rate of 2.68 percent.

ii. Account 366 (Underground Conduit)

Besides changing the ASL and dispersion curve for Account 366.71 (Underground Conduit, General), the Company proposed to revise the salvage values for both Account 366.71 and Account 366.72 (Underground Conduit, Transformer Pads), from a negative five percent to a negative 15 percent (Exhs. CEL-5, at IV-8; CEL-6, at 67). This produced an accrual rate of 2.27 percent for Account 366.71 and 3.27 percent for Account 366.72 (id. Sch. 1).

The results of the salvage studies performed by the Company indicated a negative

733.77 percent salvage value (Exh. CEL-6, at 67). The record demonstrates that considerable costs are incurred in removing conduit (id.). The Department finds that the Company has properly interpreted the results of its statistical analysis and has exercised reasoned engineering judgment. Accordingly, the Department accepts the proposed accrual rate for Account 366.71.

However, because virtually all of Account 366.72 is composed of newer equipment, there is no history of retirements for this account (Exh. CEL-5, at IV-8). Accordingly, the Department finds no basis on which a salvage value change is warranted for this account The Company is directed to maintain a negative salvage value of five percent for this account, producing an accrual rate for Account 366.72 of 2.96 percent.

iii. Account 367 (Underground Conductors and Devices)

The Company proposed to retain the current ASL and dispersion curve for this account but advocated reducing the net salvage value from a negative 10 percent to a negative 20 percent based on the Company's experience and judgment (Exh. CEL-5, at IV-8). As a result, Cambridge proposed a depreciation accrual rate for this account of 3.31 percent (id.).

The results of the salvage studies performed by the Company indicated a negative 32.06 percent salvage value (Exh. CEL-6, at 68). While the Department recognizes that significant costs are incurred in the removal of this type of plant, we are not persuaded that the limited recent salvage experience reported by the Company in Exhibit CEL-6 justifies the proposed revision. Accordingly, the Department rejects the Company's revisions and directs Cambridge to maintain a negative 10 percent net salvage value for Account 367, producing an accrual rate of 2.98 percent.

iv. Accounts 370 (Meter Equipment and Installations)

The Company proposed to retain the existing ASL and dispersion curves for the two subaccounts found in Account 370, specifically subaccounts 370.71 (Meters) and 370.72 (Installations), but advocated a revision in the net salvage value for Account 370.71 from zero percent to a negative 15 percent (Exh. CEL-5, at IV-12). As a result, Cambridge proposed a composite depreciation accrual rate for Account 370 of 4.14 percent (id.).

The analytical results of the Company's salvage analysis indicated a negative net salvage value of 41.99 percent (Exh. CEL-6, at 68). The record demonstrates that, while positive salvage values for meters were achieved in the past, there is no longer a market for such equipment (id.). The Department finds that the Company has properly interpreted the results of its statistical analysis and accepts the proposed accrual rate for these two subaccounts.

v. Account 373 (Street Lighting and Signal Systems)

There are four subaccounts in Account 373 (Exh. CEL-5, at IV-12). The Company proposed, in addition to changes to the ASL and dispersion curves, to: (1) revise the salvage values for Accounts 373.71 (Equipment) and 373.73 (Overhead Conductors) from a negative 15 percent to a negative 25 percent; (2) change the salvage value for Account 373.74 (Underground Conduits) from a negative ten percent to a negative 15 percent; and (3) change the salvage value for Account 373.75 (Underground Conductors) from a negative five percent to a negative 20 percent (id. at IV-13; Exh. AG-139 (1988 Study) at IV-14-15). The resulting composite accrual rate for this account is 6.63 percent (id.).

The analytical results of the Company's salvage analysis indicated a negative net salvage value of 32.54 percent (Exh. CEL-6, at 68). The Company claims that it took this recent salvage history into account when deriving its revised salvage values (Exh. CEL-5, at IV-13).

The Company applied the same salvage values for Accounts 373.74 and 373.75 as for the similar Accounts 366 (Underground Conduit) and 367 (Underground Conductors) (Exh. CEL-5, at IV-13). While the Department accepts the changes in salvage values proposed for Accounts 373.74 and 373.75, we find that there is no basis in the record to support the Company's selection of salvage values for Account 373.71 or 373.73. Accordingly, Cambridge is directed to maintain the existing salvage value of negative 15 percent for these accounts, producing an accrual rate of 6.43 percent for Account 373.71 and 5.81 percent for Account 373.73.

d. Application of Results

The purpose of a depreciation study is to develop accrual rates that are then applied to plant balances. The Department finds that it is not inconsistent to apply the accrual rates developed from a plant balance as of a specific date to those plant balances in service on a different date, provided there are no significant changes in plant composition in the intervening period. The Department finds that the changes in the composition of the Company's plant between December 31, 1991 and June 30, 1992 do not materially affect the validity of the depreciation study's accrual rates. The Department concurs with the Company that the results of the depreciation study may be applied to test-year end plant.

4. Conclusion

In order to calculate the annual depreciation amounts based on the new average service lives that the Department has determined for Accounts 361, 366.72, 367, 373.71 and 373.73, the Department has used the depreciation accrual rates as determined supra for these stated accounts to adjust the Company's calculations as presented in Exhibit CEL-9, Schedule 29. Based on this analysis, the Department finds that the Company's annual depreciation expense is $3,779,946, rather than the $3,870,946 proposed by Cambridge. Accordingly, the Company's proposed cost of service shall be reduced by $91,245.

C. Affiliate Transactions

1. Service Company Charges

a. The Company's Proposal

The Company has included $3,514,669 in adjusted test year expenses from the Services Company in its cost of service (Exh. CEL-9, Sch. 7). Cambridge states that the Services Company provides various executive, financial, and management services to the Company including auditing, general accounting, rate design, treasury, legal services, and mainframe computer applications such as customer billing, plant records, accounts payable, and employee information systems (Exh. CEL-8, at 17).

The Services Company charges are either directly assigned or allocated to the system operating companies (Cambridge, Commonwealth Electric, Commonwealth Gas, Canal, and the Steam Company). Direct charges are for costs incurred specifically on behalf of a particular operating company. Allocated charges reflect costs which cannot be assigned directly to any specific company and are thus allocated on the basis of various allocators.

The Company claims that the allocation of Services Company costs among the ComEnergy System subsidiaries is based on the allocation methodology approved by the Department in Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80 Phase One, at 79-84 (1991) ("D.P.U. 90-331") (id.).

b. Positions of the Parties

i. The Attorney General

The Attorney General asserts that the allocations to all of the affiliated companies since 1986 show a pattern of shifting costs to those ComEnergy System subsidiaries filing for rate relief (Attorney General Brief at 41-42). According to the Attorney General, in Cambridge's case, the allocation of Services Company charges to the Company has been 0.41 percent higher in the two most recent test years than in the two most recent non-test years (id. at 43). In Commonwealth Gas Company, D.P.U. 87-122 (1987), the Services Company charges dropped by 2.05 percent immediately after the test year selected in that case (id. at 41). In further support of this alleged pattern, the Attorney General asserts that Commonwealth Electric charges increased by 1.15 percent, "in time for the test year in Commonwealth Electric's rate case DPU 88-135/151" (id.).

The Attorney General asserts that although he cannot prove that this pattern was implemented intentionally, the effect has been unfair to ratepayers and must be eliminated by the Department. Therefore, he requests that the Department reduce the charges allocated to Cambridge by $172,978 which is the difference between the test year and the average of the two previous non-test years (id. at 43). The Attorney General also requests that the Department warn the Services Company that, in the future, "gaming" of its allocations will not be tolerated (id. at 42).

ii. The Company

The Company contends that the Attorney General's allegation of a pattern of manipulation is without merit (Company Brief at 64). Cambridge asserts that the allocation factors did not change in 1986 and 1987, and therefore no manipulation could have occurred during these two years (id. at 64-65). Cambridge further asserts that the alleged manipulation of Services Company allocations could only occur if the Company (a) manipulates the financial results (e.g., revenues) or operational data (e.g., the number of employees or meters) or (b) changes the allocation formulas (id. at 65). Cambridge contends that in the first instance it would be impossible since financial data are extensively audited, and in the second instance it would be impractical because the change would have to occur months ahead of the time a decision on whether to file a rate case would be made (id.).

Additionally, the Company argues that the Attorney General's proposed allocation adjustment of $172,978 is arbitrary and without rational basis (id. at 66-67). Furthermore, Cambridge contends that the dollar impact calculated by the Attorney General is overstated because the Attorney General twice excludes certain below-the-line costs from cost of service (id.).

c. Analysis and Findings

Services Company charges from 30 different areas are allocated among the system operating companies on the basis of 28 allocators (Exh. CEL-10). These allocators are developed based on ratios of operating company-specific data such as revenues, plant and equipment, customers, meters, employees, payroll, and property taxes (id.). As these data fluctuate from year-to-year for each of the operating companies, it follows that the cost responsibility assigned to the various operating companies would also fluctuate.

The record evidence indicates that in years 1986 and 1987, none of the formulas for the Services Company allocators changed (Exh. AG-199). The Services Company did revise some allocators in 1988 and one allocator in 1990, however the Department reviewed these allocators, as well as the rest of the Services Company allocators in D.P.U. 90-331, at 82-83, and found them to be reasonable. In the instant case, the record evidence indicates that the allocations from the Service Company to the system operating companies for each of the years in the period of 1986 through 1990 and the test year, have fluctuated from year-to-year (Exh. AG-198). However, there is nothing on the record that would indicate that the Company may have manipulated, or in any way altered, the allocations to inflate the revenue responsibility for a given operating company planning to seek rate relief. Accordingly, the Department rejects the Attorney General's proposed adjustment of $172,978. We find that the Company's use of a test-year level of Services Company charges is reasonable.

2. The 1992 Changes to Services Company Allocators and the Effects of Removing Seabrook from Allocation Formula No. 18

a. The Company's Proposal

The Company proposed to adjust its test year Services Company charges to reflect changes to seven Services Company allocators[30] put into effect on January 1, 1992

[30] Exhibit AG-199 identifies all of these allocators and describes the proposed changes.

(Exh. CEL-8, at 17; Exh. AG-199). Allocation Formula No. 18 is used to allocate Services Company charges in the areas of Internal Audit (Area 28), Income Taxes (Area 30), and Information Services Financial Systems (Area 50). The Company proposed to change this allocation formula so as to exclude Seabrook property, plant and equipment from the formula. According to Cambridge, this proposed change reflects the long-term decline of work associated with the Seabrook project, whose "property base is inflated and, therefore, carries too much weight" (Exh. AG-199). The Company's proposal leads to an increase of its share of costs from 10.87 percent to 11.83 percent (Exh. CEL-10, Part F at 13, 27, 29).

The net effect of all of the changes to the seven Service Company allocators is a reduction to cost of service of $2,026 (Exh. CEL-9, Sch. 7).

b. Positions of the Parties

i. The Attorney General

The Attorney General asserts that the Company's proposed changes in the Services Company allocators would increase the expenses allocated to the companies regulated by the Department and decrease the expenses allocated to Canal (Attorney General Brief at 44). The Attorney General contends that the justifications supporting the changes to the allocators are unpersuasive, and therefore the Department should reject these changes for ratemaking purposes (id.).

With regard to the Company's proposed change in Allocation Formula No. 18, the Attorney General argues that the Company has failed to provide any analyses or documents to support such a change in the allocation as required by Department precedent (Attorney General Brief at 45, citing New England Telephone and Telegraph Company, D.P.U. 86-33-G at 137-138 (1989); AT&T Communications of New England, Inc., D.P.U. 85-137, at 50-52 (1989)). The Attorney General also argues that the Company's rationale for the change in Formula No. 18 is questionable because Cambridge still uses the original allocation formula to allocate costs in Area 18 (Accounting) (id.). Further, the Attorney General contends that all of the departments (Internal Audit, Income Taxes, and Information Services Financial Systems) affected by the change in Allocation Formula No. 18 perform work for the entire system, including Canal which has ownership rights in Seabrook, and therefore, the effects of Seabrook property, plant and equipment should be retained in the allocation formula (Attorney General Brief at 45). Accordingly, for all these reasons, the Attorney General requests that the Department reject the proposed Allocation Formula No. 18 and reduce the Company's share of expenses associated with the above-mentioned areas by $56,866 (id. at 46).

The Attorney General argues that the Company's claim that the proposed change to Allocation Formula No. 18 was the result of the expansion in responsibilities in the departments in question, should be ignored because the Attorney General sought all such explanations on the record and the Company failed to indicate such except as argument in his brief (Attorney General Reply Brief at 20). The Attorney General urges the Department to make clear that such reliance on extra-record claims, where evidence has been sought but not provided on the record, is unacceptable (id.).

Addressing the Company's argument that Cambridge's proposed changes to the 1992 allocation formulas leads to a reduction in the test year cost of service, the Attorney General contends that this reduction would have been even higher if the Company had not made the proposed changes to the allocation factors (id.).

ii. The Company

The Company asserts that the 1992 allocation changes represent a reasonable effort to make the Services Company's allocations to Cambridge better reflect cost causation, and that contrary to the Attorney General's assertions, such changes resulted in a reduction to the Company's test year charges (Company Brief at 67).

Addressing the Attorney General's arguments regarding its proposed change in Allocation Formula No. 18, Cambridge argues that it is reasonable to exclude the Seabrook plant effect from the allocation formula for the three areas of Internal Audit, Income Taxes, and Information Services Financial Systems and not the Accounting area because the three areas "encompass broader responsibilities than the accounting area which must keep the detailed records and track Seabrook costs" (Company Brief at 67). According to Cambridge, because the Seabrook plant "is now in an operational status quo, the requirements for the other three areas have declined" (id. at 67-68). Therefore, the Company contends that it is reasonable to exclude the Seabrook property, plant and equipment from this formula (id.).

Further, Cambridge argues that if the Attorney General was not satisfied with the Company's explanation regarding the change to Allocation Formula No. 18, "he should have inquired about the further basis of that change on the record, instead of on brief after closing the record" (Company Reply Brief at 32). In contrast, according to the Company, nothing on the record supports the Attorney General's argument against such change (id.). Additionally, the Company contends that contrary to the Attorney General's allegations, it has provided clear record support for each of the changes in the allocation formulas (id.).

c. Analysis and Findings

In determining whether rates are just and reasonable, the Department may examine affiliated transactions to ensure that dealings between affiliated companies provide direct benefits to ratepayers and that associated costs are reasonable and allocated in a nondiscriminatory manner. G.L. c. 164, § 76A; Bay State Gas Company, D.P.U. 92-111, at 134-135 (1992). The Department historically has exercised its obligation and authority to ensure that a company's affiliate costs passed on to the company's ratepayers are reasonable and that ratepayers pay a fair portion of the costs. D.P.U. 92-111, at 134-137; D.P.U. 86-33-G at 113-211; Commonwealth Electric Company, D.P.U. 88-135/151, at 57-62 (1989); Oxford Water Company, D.P.U. 1699, at 10-13 (1984).

The Department's standard for reviewing affiliate transactions has been articulated previously in D.P.U. 1699. In that case, the Department found that in order to recover costs incurred from an affiliate, the company must show that those costs: (1) are specifically beneficial to the individual company seeking rate relief (as opposed to other subsidiary members of the system as a whole); (2) reflect a reasonable and competitive price; and (3) are allocated by a service company formula that is cost-effective and nondiscriminatory. D.P.U. 1699, at 13.

The Department has reviewed the reasons supporting the 1992 changes to the Service Company allocators and finds them appropriate. Exhibit AG-199 describes the 1992 changes in the allocation formulas and provides the reasons for such changes. Our review of the record evidence indicates that the Attorney General's claim that the Company has failed to provide any support for the 1992 changes is not correct (Exh. AG-199; Tr. 15, at 137-142;

Tr. 17, at 66-69). During cross-examination by the Attorney General, the Company's witness stated that the change to Allocation Formula No. 18 was made to remove the effect caused by the disproportionate amount of Seabrook property, plant and equipment relative to total property plant and equipment (Tr. 15, at 138). The Attorney General had ample opportunity to inquire further for any additional explanation supporting this as well as all of the other changes, but chose not to do so (Tr. 15, at 138-139; Tr. 17, at 66-68). Accordingly, the Department finds that the Company's proposed adjustment of ($2,026) is reasonable.

3. Kendall Station Operation and Maintenance Expenses

The Company's test year total O&M expense for the Kendall Station amounted to $7,196,461 (RR-AG-46). During the test year, the Company billed the Steam Company $3,851,869[31] for steam sold at Kendall Station (Exh. AG-108). The largest component of this amount, $3,239,094, is the cost of fuel used to fire the boilers at Kendall Station. The Company allocated fuel costs between electric use and steam use on an energy basis by converting the quantities of steam and electricity produced into equivalent MMBTUs and then measuring the relative energy output of the station (Exh. AG-108). Since the Steam Company has no employees, all maintenance and operations work performed at Kendall is performed by Cambridge employees. Cambridge used an allocation factor of 40 percent

31 The breakdown of this amount is:

a.	Fuel costs	$3,239,094
b.	Fixed charges-Steam	$377,016
c.	Water Treatment	$235,759

(Exh. AG-108).

(based on the number of boilers owned by the Steam Company in relation to the total number of boilers at Kendall Station) to calculate the Steam Company's share of the Kendall operating expenses (id.).

a. Positions of the Parties

i. The Attorney General

The Attorney General asserts that the Company has under-allocated costs to the Steam Company and as a result, the Steam Company earned a 46.2 percent return on common equity during the test year (Attorney General Brief at 46). The Attorney General contends that the Steam Company paid only $848,201 or 11.79 percent of the test year total of $7,196,461 for non-fuel operation and maintenance expense at Kendall, which is far below the 42 percent of the total steam output sold to the Steam Company by Cambridge. The Attorney General maintains that "it is clear that the Steam Company is paying a disproportionately small share of the Company's actual operation and maintenance expenses" (id. at 48). The Attorney General takes issue with the allocation factor used by the Company to allocate the Kendall Station operating expenses and argues that this allocation is unfair because it fails to consider any "charges for the common work areas and steam production facilities, boilers 1, 2, and 3, which are used for both electric and steam company operations" (id. at 48-49). To correct for this perceived inequity, the Attorney General recommends that an additional $114,998 or 42 percent[32] of operating labor expense associated with boilers 1, 2 and 3 be allocated to the Steam Company (id. at 50).

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32 42 percent is the percentage of steam output from Kendall Station's boilers 1, 2, and 3 that the Company sold to the Steam Company during the test year (RR-AG-45).

Additionally, the Attorney General asserts that the Company assigns insufficient maintenance expenses to the Steam Company (id.). He contends that because the maintenance expense allocated to the Steam Company is based on estimates of the historical time employees spend doing specific functions and not the time sheet totals of all time actually spent, such method fails to represent all of the costs of the steam operation (id.). The Attorney General also contends that the Company failed to allocate any of the maintenance costs associated with boilers 1, 2, and 3 to the Steam Company (id. at 50-51). Regarding accounts 510 - Maintenance Supervision and Engineering; 511 - Maintenance Structures; 512.02 - Maintenance Boiler Plant; and 514 - Maintenance Miscellaneous Steam Plant, he argues that no maintenance expenses were allocated to the Steam Company (id. at 51). The Attorney General reasons that because maintenance expenses benefit both the Steam Company and Cambridge, and 100 percent of the maintenance work is performed by Cambridge personnel, it is appropriate to allocate a portion of maintenance expenses to the Steam Company (Attorney General Brief at 51). Therefore, the Attorney General recommends that the Department exclude $245,718 from the Company's test year cost of service.[33] According to the Attorney General, this amount relates to the maintenance of boiler plant for boilers 1, 2, and 3 only (id.).

Moreover, the Attorney General argues that the production allocator of 42 percent should be used to allocate the "maintenance of other plant that supports the boiler, as well as,

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33 The Attorney General calculates this amount by applying the steam production allocator of 42 percent to $585,043 contained in Account 512.02 - Maintenance of Boiler Plant (Attorney General Brief at 51).

the electric operations" (id.). He asserts that since boiler maintenance expense is 45 percent of the total boiler maintenance and electric plant maintenance, then "45 percent of the general maintenance expenses incurred at Kendall Station should be associated with boiler plant", an amount the Attorney General calculates to be $99,077 (id. at 51-52). He recommends that 42 percent, or $41,612 of this total, be excluded from the test year cost of service (id.).

The Attorney General also argues that the level of O&M expenses which the Company charged directly to the Steam Company is inadequate (Attorney General Brief at 52-54). According to the Attorney General, none of the salaries of the: (1) supervisor of buildings, grounds and security; (2) janitors; (3) stores assistant stockman; and (4) manager of customer services are allocated to the Steam Company. Further, only five percent of the salaries of one demand meter specialist, one clerk, two meter and service coordinators, one supervisor of meters and one supervisor of service and meter orders is allocated to non-utility operations (Attorney General Brief at 53-54). He recommends that the Department apply his proposed production allocator of 42 percent to allocate all of the salaries associated with Kendall Station, and thus reduce the Company's test year cost of service by an additional $874,258 (id. at 54).

The Attorney General also takes issue with the Company's allocation of A&G expenses to the Steam Company contending that the Company's allocation of $198 is insufficient (id. at 55). He urges that the Department to correct this deficiency by allocating to the Steam Company a share of accounts 920, 921, 923, 924, 925, 930.1 and 930.2, representing a total of $4,726,612 in A&G expenses (id.). The Attorney General recommends that the Department use a revenue allocator, since such allocator "provides the most general and broad based allocation" (id. citing Western Massachusetts Electric Company, D.P.U. 89-255, at 99-102 (1990)). The Attorney General calculated a revenue allocator of 9.22 percent. He indicates that this allocator would reduce the Company's cost of service by $435,794 (id.).

In response to the Company's assertion that the Attorney General had ignored $282,499 in A&G expenses directly charged to the Steam Company, the Attorney General contends that this amount relates to the A&G expenses associated only with the Blackstone Station and has nothing to do with the A&G expenses associated with the Kendall Station (Attorney General Reply Brief at 26). Therefore, he maintains that the Company is incorrect in arguing that the direct allocation of $282,499 was "carelessly ignored" (id.).

Finally, the Attorney General maintains that he was unaware that any C&LM charges were contained in accounts 920.20 and 930.2 and agrees with the Company's position that none of the $50,000 of C&LM costs should be allocated to the Steam Company (Attorney General Reply Brief at 26-27).

On reply brief, the Attorney General developed an allocator which he termed a "PR demand allocator" from data derived from Exhibit AG-108. This suggested allocator would require the Steam Company to contribute 43.48 percent of Kendall O&M expenses to Cambridge (Attorney General Reply Brief at 25). Alternatively, the Attorney General recommends that the Department use the 42 percent production allocator advocated in his initial brief (id.).

ii. The Company

Cambridge asserts that the issue of the Company's allocations to the Steam Company has been reviewed and approved by the Department in Cambridge Electric Light Company, D.P.U. 20104, at 11-15 (1979). The Company asserts that no changes have occurred since that Order to justify any change in the allocation methodology[34] (Company Brief at 37-39). According to the Company, the "Kendall Station is needed for electric service and provides first contingency coverage ... the Steam Company imposes no demand on the electric company facilities ...." (id. at 39). The Company further asserts that the Attorney General's argument regarding the allocation of O&M costs is based on the faulty premise that demand- and energy-related costs be allocated on the same basis, an argument Cambridge claims was made and rejected by the Department in D.P.U. 20104 (id. at 44).

Addressing the Attorney General's claim that only 11.79 percent of the Kendall non-fuel O&M expenses were allocated to the Steam Company, Cambridge argues that the Attorney General failed to deduct the applicable fuel costs from total O&M expenses, and that the correct calculation yields an allocation of 21.12 percent rather than 11.79 percent as the Attorney General alleges (id. at 49-50).

Turning to the Attorney General's specific adjustments relating to Kendall's O&M expenses, the Company argues that the allocations proposed by the Attorney General were presented for the first time in this proceeding in the Attorney General's Brief, contain calculational errors, and do not allow for sufficient opportunity for the Company to explore

34 See Section I.A.2.b. for a complete discussion of the Company's position regarding the allocation of costs associated with the Kendall Station.

and demonstrate whether there are more errors (id. at 44). Next, Cambridge denies the Attorney General's allegations that no allocations are made for costs relating to boilers 1, 2, and 3 (id. at 48-50). The Company argues that its allocation factor of 40 percent applies to all boilers and not just to boilers 4 and 5, as the Attorney General alleges (id. at 48-49). The Company maintains that it does not account for its expenses on a unit-by-unit basis, therefore any allocation must be made on the plant as a whole. Furthermore, the Company reasons that since the Steam Company's boilers 4 and 5 (1) are much smaller than the Cambridge-owned boilers 1, 2, and 3; (2) operate fewer hours; and (3) produce a much lower pressure steam, it is impossible that these boilers involve the same level of costs as boilers 1, 2, and 3 (id. at 49). Therefore, according to Cambridge, one can reasonably conclude that the Company's allocation to the Steam Company covers costs relating to boilers 1, 2, and 3 (id.).

The Company also takes issue with the Attorney General's proposed adjustments for maintenance costs, arguing that the Attorney General's calculations are in error because they include costs related to Blackstone Station and the Kendall Jets[35] (id.).

Regarding the Attorney General's argument that labor cost allocations based on employee time estimates understate the costs of the steam operation, the Company asserts that this argument lacks any record basis (id. at 49). Cambridge contends that its time estimation process can as easily be shown to result in an overstatement of costs to the Steam Company, rather than the understatement alleged by the Attorney General (id.).

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[35] There are two jet units at Kendall Station. They are identical Pratt & Whitney engines, and are rated at 20 MW (winter normal) each.

With respect to the Attorney General's argument that the direct charges to the Steam Company are too low, Cambridge contends that the Attorney General relies upon an unsupported judgment of what level of assignment of costs is reasonable (id. at 50). The Company asserts that the Attorney General does not mention several employees who have substantial portions of their pay directly charged to the Steam Company - the chief engineer, the production supervisor, the production office supervisor, and the supervisor of maintenance (id.). Furthermore, the Company notes that although the Attorney General urges that 42 percent of total payroll be charged to the Steam Company he fails to show that all employees do Steam Company work, "much less spend almost one half of their time on Steam Company work" (Company Brief at 51). Moreover, Cambridge contends that the Attorney General's proposed adjustment of $874,258 does not take into account the other O&M adjustments already recommended by the Attorney General (id.).

Regarding the Attorney General's recommended adjustment to the A&G expenses, the Company argues that such adjustment is not based on cost causation and is "unsupported by and shown to be incorrect by record evidence" (Company Brief at 51). Cambridge contends that the Attorney General has ignored $282,499 of A&G expenses which the Company charged directly to the Steam Company (id.). The Company further contends that the Attorney General's proposal seeks to allocate over $50,000 of C&LM costs appearing in accounts 920.20 and 930.30 which should not be charged to the Steam Company (id.).

Responding to the Attorney General's PR allocator proposed in his reply brief, the Company asserts that the Attorney General's argument should be rejected because it does not specify to which costs he would have the PR allocator apply (Company Reply Brief, at 25).

According to Cambridge, the Attorney General's proposed PR allocator assumes that only 56.24 percent of the steam produced at Kendall Station is used to generate electricity. However, the Company asserts that this assumption is contradicted by the record evidence which indicates that 100 percent of the steam produced is used for the production of electricity (id. at 25-26, citing RR-AG-34). According to the Company, this evidence should be sufficient ground to reject the Attorney General's argument (id. at 26).

b. Analysis and Findings

The record evidence in this case indicates that Kendall Station was designed, and its equipment sized and configured, to produce electricity (RR-AG-34). One hundred percent of the steam produced by Kendall Station's boilers 1, 2, and 3 is used for electric production, and only after the steam is delivered to the turbine generators to produce electricity, 42 percent of the steam is captured as low pressure exhaust steam and is sold for district heat purposes (RR-AG-34; Tr. 17, at 191-192). Kendall Station also is important in terms of electric service reliability because it serves as a first contingency protection measure to the Company's transmission supply (Tr. 16, at 135). The record also shows that the Steam Company's boilers 4 and 5 are capable of supplying all of the steam requirements, and that the Steam Company can interrupt service to its customers in the event that it is unable to purchase sufficient quantities from Cambridge or to produce the steam from its own boilers 4 and 5 (RR-AG-34).

Accordingly, one can reasonably conclude that the Steam Company imposes no demand on Cambridge's facilities that would not exist in the absence of the Steam Company. Based on this conclusion and consistent with our findings in Section II.A.3., it is reasonable to infer that the Steam Company is responsible for none of the Kendall Station production-related plant, or production related O&M expenses associated with boilers 1, 2, and 3. However, since the Steam Company purchases steam from Cambridge, the price Cambridge charges for that steam must reflect a portion of the various O&M expenses incurred in the process of producing steam. The allocation of these O&M expenses by the Company to the Steam Company was approved by the Department in D.P.U. 20104, at 11-15. In the instant case, the Company used the same method to allocate the costs to the Steam Company (Exh. AG-108; RR-AG-85; Tr. 17, at 193).

Although the Attorney General contends that the Company allocates a disproportionately small share of its Kendall Station O&M expenses to the Steam Company, as we discuss below, the Department has some serious concerns regarding the allocation of certain labor-related expenses. However, we are not convinced that the Attorney General's recommended adjustments to the Company's cost of service are reasonable.

We disagree with the Attorney General's assertion that the Company did not allocate to the Steam Company any of the operating labor expense associated with boilers 1, 2, and 3. The record evidence indicates that the Company allocated $182,543 or 40 percent of the total operating labor expenses to the Steam Company (Exh. AG-108). The allocator used by Cambridge to allocate these expenses applies to all boilers and not just to boilers 4 and 5 as the Attorney General alleges. This is the same method approved in D.P.U. 20104. The Attorney General's recommended adjustment of an additional $114,998 is in error because it doubles the allocation of costs related to boilers 1, 2, and 3.

Regarding the Company's allocation of maintenance expenses to the Steam Company, the record shows that the Company did allocate to the Steam Company $310,430 in maintenance expenses associated with Kendall Station (RR-AG-33). Since the Company does not account for its maintenance expenses on a boiler-by-boiler basis, it is not possible to determine the exact level of maintenance costs associated with boilers 1, 2, and 3. Although we have no reason to believe that the level of maintenance expenses allocated to the Steam Company is unreasonable, we are concerned that the Company's charges to the Steam Company are based on estimates of time spent by employees on different operations, and not on actual time sheet totals. Allocating costs on estimates of time is erroneous because it could lead to an over- or under-allocation of maintenance expenses. The Company is directed, in its next rate case, to allocate these expenses on data derived from actual time sheets indicating the amount of actual time spent performing Steam Company work versus electric utility operations.[36]

With respect to the allocation of A&G expenses, the Department disagrees with the Attorney General that only $198 was allocated to the Steam Company. The record indicates that the Company allocated to the Steam Company $96,236 in A&G expenses associated with Kendall Station (RR-AG-85). It is not apparent from the record evidence what allocation method the Company used for A&G expenses, however, there is nothing on the record to indicate that the Steam Company should be allocated a higher or lower amount of A&G related expenses.

Accordingly, for the reasons stated above, the Department rejects the Attorney

36 The Company must be prepared to support its allocation via copies of actual time sheets and other related documents.

General's proposed adjustments to the Company's cost of service as they relate to Kendall Station's O&M expenses. Furthermore, as was the case in D.P.U. 20104, the Attorney General again assumes that all of the O&M expenses are energy related and, therefore, he recommends a general energy allocator to allocate these expenses, an approach previously rejected by the Department.[37]

Our findings in this section do not imply a flawless allocation approach on the Company's part. As we stated above, the record is not entirely clear as to the classification or allocation of some of the Kendall Station's O&M expenses. Therefore, the Department directs the Company in its next rate case, to provide a cost-of-service study detailing the costs allocated by Cambridge to the Steam Company. In particular, in preparing this study, the Company must follow the allocation process described above, by functionalizing all costs, classifying the expenses in each functional category, identifying the appropriate allocators, and allocating all costs. Further, the Company must prepare a report explaining the underlying criteria or rationale for the choice of allocators used to allocate the costs among Cambridge, the Steam Company, or any other operating company.

D. Early Retirement Expense

1. The Company's Proposal

During the test year, Cambridge expended $154,844 on an early retirement program. Cambridge proposes to amortize this expense over two years, thus recovering $77,422 per year (Exhs. CEL-8, at 18; CEL-9, Sch. 9, Rev.).

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[37] The Attorney General's proposed allocation method is also inconsistent with the Company's allocation of its production related O&M expenses. See Exh. CEL-16.

In 1988, Commonwealth Electric offered an early retirement program to its employees. This program was intended to downsize Commonwealth Electric's staff in response to an economic slowdown and a slowdown in growth in its service territory (id.). However, Cambridge did not offer a similar early retirement program to its employees because it had not experienced a economic downturn in its service territory. Cambridge's union employees filed and subsequently won a labor grievance that required Cambridge to offer the same early retirement program as Commonwealth Electric (id.). However, Cambridge stated that it will have to replace those eligible employees who take advantage of the early retirement program (id. at 19).

2. Positions of the Parties

a. The Attorney General

The Attorney General contends that the early retirement expense should be disallowed (Attorney General Brief at 75). The Attorney General asserts that the Company's original management decision to exclude Cambridge employees from the early retirement program was imprudent and inappropriate, as demonstrated by the Company's failed legal action. Accordingly, the Attorney General concludes that the Department should find the early retirement expense imprudent and disallow recognition of the proposed adjustment (id.).

Further, the Attorney General contends that had the early retirement program been administered appropriately and offered on a "COM/Electric" wide basis, the savings that Commonwealth gained from this program would have offset Cambridge's loss and thus, no costs would exist to be recovered from Cambridge's ratepayers (Attorney General Reply Brief at 38). Therefore, the Attorney General recommends that if the Department does not find the expense imprudent, the Department should treat the early retirement program as a combined COM/Electric program now and allocate the resulting net savings proportionately to Cambridge and Commonwealth Electric (Attorney General Brief at 75-76).

b. The Company

The Company maintains that its decision not to offer the early retirement program to its employees was prudent because: (1) there were no payroll savings to be achieved and (2) avoiding a cost that would not produce a benefit is prudent (Company Brief at 30). The Company asserts that the Attorney General has provided no record evidence that would support his contention of imprudence (id.; Company Reply Brief at 37-38). The Company contends that a labor arbitrator's finding that its employees were entitled to the same early retirement benefits as Commonwealth Electric's employees does not demonstrate mismanagement (Company Reply Brief at 38). Further, the Company argues that the Attorney General has not provided evidence that the timing of the Company's offering of the early retirement program violated any law (id. at 38).

The Company argues that the Department has recently allowed the amortized recovery of the costs of an early retirement plan (id. citing Berkshire Gas Company, D.P.U. 92-210, at 108 (1993)). In response to the Attorney General's position that net savings would have resulted if the Company had originally offered the early retirement program to its employees, the Company maintains that the Attorney General ignores the benefits that Cambridge has realized during in the test year in the form of reduced allocated payroll from Commonwealth Electric as a result of Commonwealth Electric's early retirement program (id.; Company Brief at 30-31).

3. Analysis and Findings

The Company's union employees requested that an arbitrator be used to rectify the dispute regarding the early retirement program. The arbitrator then directed Cambridge to offer the program to its employees. The Attorney General has presented no evidence to support either his assertion that the Company's actions were imprudent or his recommendation that the costs and savings resulting from Commonwealth Electric's and Cambridge's early retirement programs should be treated on a consolidated basis. Because of the unusual circumstances in this case where the Company was required by the arbitrator to offer an early retirement program, the Department will allow the Company to recover its early retirment expense. The Department recognizes that disallowing the recovery of early retirment expenses could result in a disincentive for utilities to take appropriate actions to control costs and thereby benefit ratepayers.

E. Inflation Allowance

1. The Company's Proposal

The Company has proposed an inflation allowance of $317,785 based on an inflation factor of 4.69 percent (Exh. CEL-9, Sch. 13, Rev.). The Company used historic Gross Domestic Product Implicit Price Deflator ("GDP IPD") values, as published in the "Survey of Current Business", and Producers Price Index ("PPI") values, as published in the "Monthly Labor Review", along with estimated future GDP IPD and PPI values prepared by Data Resources International ("DRI"), to calculate the inflation adjustment to be applied to O&M expenses which are not separately adjusted in the cost of service ("residual O&M") (Exhs. CEL-9, at 21-22, App. B at 22; CEL-11, at 1). By determining the increase in the

GDPIPD and PPI values for the period from the midpoint of the test year to the midpoint of the year following the date of this Order (December 1992 to November 1994), the Company calculated the 4.69 percent inflation rate (Exh. CEL-9, Sch. 13, Rev.). The proposed inflation adjustment incorporates the most recent inflation forecast from DRI and cost of service adjustments agreed to by the Company in its briefs (id.).

2. Positions of the Parties

a. The Attorney General

The Attorney General asserts that the Company's inflation adjustment fails to conform to Department precedent in two ways. First, the Attorney General contends that the Company has failed to exclude from test year residual O&M certain expenses which are either (1) fixed and thus do not require an adjustment, or (2) are known and can be adjusted separately (Attorney General Brief at 76). The Attorney General maintains that the following expense items, totalling $991,991, were included in test year residual O&M in violation of Department precedent: (1) postage expense ($112,817); (2) EEI Dues ($49,935); (3) EPRI Dues ($287,114); (4) lobbying expense ($39,614); and (5) NEPOOL CRC ($502,511) (id. at 76). Therefore, the Attorney General requests that the Department reduce the Company's test year residual O&M by $991,991.

Second, the Attorney General asserts that the Company incorrectly calculated its inflation adjustment. The Attorney General maintains that since the average ratio of residual O&M to GDPIPD was 64.12 percent, the Company qualifies for only 64.12 percent of the forecasted rate of inflation (id. at 77).

b. The Energy Consortium

The Energy Consortium maintains that the Department should reconsider its precedent of granting an inflation allowance because (1) inflation has been brought under control, (2) the Company has emphasized its cost control efforts, and (3) such an allowance "implies a `business as usual' approach to costs" (Energy Consortium Brief at 5-6).

c. The Company

The Company asserts that the Attorney General's proposed adjustment of $991,991 to the Company's test year residual O&M is inappropriate. The Company contends that postage expense is properly included in residual O&M because it is an ongoing expense which will increase over time. The Company maintains that the removal of postage expense from the cost of service is only proper in instances where a utility is proposing a specific adjustment to postage expense (Company Brief at 93, comparing Bay State Gas Company, D.P.U. 92-111 (1992) and Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80 Phase One (1991)).

Regarding EEI dues, the Company argues that $48,141 of the $49,935 adjustment for EEI expenses proposed by the Attorney General already were removed from the test year cost of service. Thus, the Company asserts, only a $304 adjustment to test year O&M is appropriate (id., citing Exh. CEL-12, Sch. 17 workpapers).

As to EPRI expenses, the Company maintains that, as demonstrated by the four percent increase in EPRI costs from 1991 to 1992, such costs increase over time and are appropriately subject to an adjustment for inflation (id. at 94). The Company asserts that if the Department removes EPRI costs from its residual O&M, the actual increase in EPRI costs identified in the Company's monthly General Activities Reports should be included in the cost of service on an annualized basis (id. citing Exh. AG-234). The Company contends that the resulting adjustment is an increase of $5,630 (id. at 94).

As to lobbying expense, the Company maintains that the Attorney General's proposed adjustment for this expense is not warranted because this lobbying expense was not included in the test year cost of service and, therefore, was not included in residual O&M (id. at 93) Likewise, the Company argues that NEPOOL CRC costs are power cost charges which were already removed from test year O&M (id.).

The Company asserts that its proposed inflation allowance is consistent with Department precedent. The Company argues that the Department has found that a comparison of the historical change in residual O&M and GDPIPD is no longer necessary in order to support an inflation allowance; rather, a showing of cost-containment effort is required (id. at 92, citing Berkshire Gas Company, D.P.U. 92-210, at 77-78 (1993)). The Company asserts that in Nantucket Electric Company, D.P.U. 91-106/138 (1991), the Department made an allowance in the calculation of Nantucket's inflation adjustment so as not to penalize Nantucket for implementing cost containment measures (id. at 95). The Company contends that since it has demonstrated cost-containment consistent with recent Department precedent, the Company's proposed inflation adjustment should be allowed in its entirety (id.; Company Reply Brief at 40).

The Company contends that the Energy Consortium's recommendation to eliminate the inflation allowance entirely, is contrary to Department precedent (Company Brief at 95). The Company maintains that the Department has held that an inflation allowance is a proper cost of service item in times of both high and low inflation (id. citing Western Massachusetts Electric Company, D.P.U. 85-270, at 188-191 (1986)). Further, the Company asserts that its cost containment efforts should not be a basis for eliminating the inflation allowance, and, consistent with Department precedent, its proposed adjustment should be allowed (id. at 95, citing D.P.U. 92-210 and D.P.U. 91-106/138).

3. Analysis and Findings

The Department permits utilities to increase test year residual O&M expense by the projected increase in GDPIPD for the period from the midpoint of the test year to the midpoint of the rate year. Massachusetts Electric Company, D.P.U. 92-78, at 60-61 (1992); Western Massachusetts Electric Company, D.P.U. 87-260, at 86 (1988).

The Department has allowed utilities to apply a portion, capped at 100 percent, of the projected increase in inflation as an inflation adjustment to their test year residual O&M expense; the portion of inflation has historically been determined as the average ratio of the compound annual percentage change in residual O&M to the compound annual percentage change in GDPIPD over a five year period ending with the test year. Boston Edison Company, D.P.U. 1720, at 22-23 (1984); Western Massachusetts Electric Company, D.P.U. 1300, at 82-84 (1983); Commonwealth Electric Company, D.P.U. 956, at 39 (1982).[38]

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[38] In an Order issued on March 31, 1993, the Department stated that it would no longer employ this historic ratio method for calculating an inflation adjustment. Berkshire Gas Company, D.P.U. 92-210, at 77-78 (1993). In the instant case, no party addressed the relevance of the historical comparison inflation test on the record. In fact, the Company testified that it provided the historical comparison inflation test in compliance with Department precedent and that, in accordance with that precedent, it

The Company is correct in noting that the Department, in D.P.U. 91-106/138 allowed an inflation allowance to avoid penalizing the company for containing its residual O&M expenses, even though the historical comparison inflation test did not support an allowance for inflation. However, the facts in that case can be distinguished from the facts in the instant proceeding. In D.P.U. 91-106/138, the Department performed the historical comparison inflation test for a four-year period rather than five, leaving out the test year in recognition of the Company's containment of test year residual O&M expenses. Id. at 67. In the instant proceeding, however, the Company has demonstrated that its residual O&M expenses have either declined or not increased as quickly as the GDPIPD for four of the past five years. If the Department were to exclude the test year from the historical comparison inflation test, the Company would qualify for only 25.92 percent of the inflation allowance. Therefore, even using the Nantucket method, the Company does not qualify for 100 percent of the inflation allowance. Accordingly, consistent with the Department's analysis of the historic values for residual O&M and GDPIPD, Cambridge is entitled to 64.12 percent of the inflation allowance, calculated below.

With regard to the Attorney General's proposed adjustments to the Company's residual O&M, the Department finds that the Company inappropriately included the following items in test year residual O&M: (1) postage expense; (2) EPRI costs; and (3) $304 in EEI dues. With regard to postage expense, the Department previously has found that:

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qualified for 64.12 percent of the inflation allowance (Tr. 17, at 16). The Company first proposed to eliminate the historical comparison inflation test in its initial brief.

> Known and measurable changes in postage expense are recognized by the Department in separately calculated cost of service adjustments. Such increases are not subject to the general rate [of] inflation in the economy but rather result from actions by the Postal Rate Commission. Accordingly, it is not appropriate to include postage expense in the inflation calculation, and this amount will be removed from the residual O&M expense base.

Massachusetts Electric Company, D.P.U. 89-194/195, at 56 (1990).

With regard to EPRI expenses, the Department previously has found that "such expenses are large enough to warrant separate adjustment in the cost of service if facts and circumstances associated with those expenses demonstrate that the test year amount is unrepresentative of the expected level of expense." Id. at 57. The Department also rejects the Company's alternative proposal to allow recovery of the actual increases in EPRI costs in the cost of service. Exhibit AG-234 indicates that EPRI expenses increased by four percent from 1991 to 1992. However, the Company has failed to provide documentation that EPRI membership dues have increased. The Department finds that the Company's proposed alternative adjustment violates the known and measurable standard and, therefore, denies the $5,630 adjustment to the cost of service.

With regard to the Company EEI expense, the Company has indicated that it has already removed $48,141 of EEI related expenses from the test year cost of service and has agreed to reduce further its residual O&M by $304. Therefore, the Department accepts the Company's modification. In addition, since the Company has indicated that it has removed lobbying and NEPOOL CRC costs from the cost of service, the Department finds that the Company's residual O&M does not need to be further adjusted for these items. Finally, as found in Section IV.A.3, above, the Company shall also remove health care costs associated with its non-union employees from its residual O&M.

With regard to the Energy Consortium's proposal to eliminate the inflation allowance in its entirety, the Department previously has rejected arguments in support of such a proposal. D.P.U. 85-270, at 188-191; D.P.U. 90-331, at 158-160; D.P.U. 92-111, at 161. The Energy Consortium has presented no new arguments or evidence to support its proposal. Accordingly, the Energy Consortium's proposal is denied.

Lastly, as noted above, the Department will determine the Company's inflation adjustment based upon the compound annual percentage increase in its residual O&M and the GDPIPD for each of the five twelve-month periods, beginning with fiscal years 1987 through 1991 and ending with fiscal year 1992 (Exh. CEL-11, at 1). Since the compound annual growth calculations for both the residual O&M and the GDPIPD exhibit positive values, we find that the Company should receive an inflation allowance. Applying the updated GDPIPD calculation contained in the revised Schedule MJM-18 submitted with the Company's reply brief, to the $6,130,052 residual O&M expense determined in this Order by the Department, we calculate an inflation allowance of $184,345. See Table 2 to this order.

The Department recognizes that a utility's residual O&M expenses may fluctuate from year-to-year as a result of external, environmental, financial, or physical changes to its rate base and cost of service, despite the level of forecasted inflation. Therefore, although the Department will continue to require all utilities to present an inflation forecast, along with the level of residual O&M expenses to be used in order to determine an inflation allowance, the Department will no longer require the historical-comparison inflation test.

The elimination of the inflation test, and the requirement that a utility demonstrate all cost containment measures it has implemented, will eliminate any disincentives to avoid cost control steps.

F. Recurring/Non-Recurring Expenses

1. Consulting Fees

The Company has proposed to include $16,595 in the test year cost of service for consulting fees related to a work force study performed by Power Technology (Exh. AG-112).

a. Positions of the Parties

i. The Attorney General

The Attorney General argues that the consulting costs associated with the work force study are non-recurring since the Company no longer has a contract with Power Technology and has not demonstrated that similar studies have been or will be performed on a recurring basis (Attorney General Brief at 88; Attorney General Reply Brief at 33-34). The Attorney General further argues that although the Department has previously allowed recovery of consulting costs which were part of a larger category of recurring expenses, the Company has failed to provide evidence to determine a historical level for such costs (Attorney General Reply Brief at 33). Thus, the Attorney General asserts, this expense should be excluded from the cost of service (id.).

ii. The Company

Cambridge argues that while it is unlikely that Power Technology will perform another workforce study for the Company, it should still be allowed to recover the cost of the instant study as an example of a broader category of recurring expenses (Company Brief at 114). Further, the Company maintains that the instant study provided benefits to ratepayers and disallowance of such cost would provide companies with a disincentive to engage in consulting studies that will improve operations (id.; Company Reply Brief at 47).

b. Analysis and Findings

The Department permits companies to reflect expenses in its cost of service if a company can demonstrate that the expense is either annually or periodically recurring or, if non-recurring, that it is extraordinary in nature. Commonwealth Electric Company, D.P.U. 89-144/90-331/91-80 Phase One at 152 (1991); Western Massachusetts Electric Company, D.P.U. 88-250, at 65-67 (1989).

For the consulting fees challenged by the Attorney General, the classification of the expense as recurring or non-recurring depends on whether we consider the underlying activity to be a separate expense category or whether it should be considered as a component of a larger expense category. See D.P.U. 88-250, at 66. While there is no dispute that the Company does not plan to pay Power Technology for another work force study in the next year, the Department agrees with the Company that this contract is an example of a broader category of recurring expenses. Further, the Department has held that assessments of a Company's performance provide benefits to ratepayers, and we encourage companies to undertake such self-examinations which will lead to clear ratepayers benefits. See Bay State Gas Company, D.P.U. 92-111, at 131 (1992). Accordingly, the Department finds that the consulting fees at issue are properly included in the Company's cost of service.

2. Oil Spill Clean-Up Costs

The Company has proposed to include $22,033 in its test year cost of service that relates to oil spill clean-up costs at its Putnam Bulk Substation (Exhs. AG-24; AG-25).

a. Positions of the Parties

i. The Attorney General

The Attorney General argues that the Company's oil spill clean-up costs are non-recurring, non-extraordinary and should be removed from the cost of service (Attorney General Brief at 88). The Attorney General asserts that oil spills cannot be characterized as "environmental compliance" costs, as argued by the Company, and that precedent indicates clearly that a company cannot seek to recover expenses related to such occurrences (Attorney General Reply Brief at 32-33, citing Nantucket Electric Company, D.P.U. 88-161/168, at 130-132 (1988); Utah Power & Light Company, 63 PUR 4th 13, 33 (Utah Public Service Commission (1984)).

ii. The Company

The Company maintains that (1) environmental compliance costs are recurring and (2) the $22,033 expended in the test year is comparable to the Company's historic environmental compliance costs (Company Brief at 114). The Company asserts that when handling hazardous waste materials, environmental costs recur on a regular basis. Further, the Company maintains, environmental costs that relate to an oil spill would still be the Company's responsibility even if the spill was not its fault. Therefore, the Company asserts that the Department should find this expense recurring and allow it in the cost of service "at least in the absence of a legitimate question about [its] fault" (Company Brief at 114).

b. Analysis and Findings

The threshold question is whether the Company experiences recurring oil spill clean-up costs. See D.P.U. 88-161/168, at 131. In D.P.U. 88-161/168, the Department found such expenses to be non-recurring. Id. Therefore, pursuant to Department precedent regarding recurring/non-recurring expenses described above, we find that the Company has not demonstrated that oil spill clean-up costs recur on either an annual or a periodic basis. Accordingly, the cost of service shall be reduced by $23,033.

F. Liability Insurance

1. The Company's Proposal

During the test year, the Company booked $84,307 in liability insurance expense. The Company proposes a $540,044 adjustment to its test year liability insurance expense to reflect a credit made during the test year by one of its insurance carriers (Exh. CEL-9, Sch. 16). The credit reflects adjustments to premiums paid during the period from 1981 to 1991 based on the Company's actual claim experiences (Exh. CEL-8, at 23). The Company states that the proposed corresponding adjustment to its test year expense is necessary to establish a representative level of test year liability insurance expense (id.).

2. Positions of the Parties

a. The Energy Consortium

The Energy Consortium asserts that the Company collected the cost of insurance premiums for prior periods through rates (Energy Consortium Brief at 5). Thus, the Energy Consortium argues, any credit received by the Company for such insurance premiums should be returned to ratepayers (id.). The Energy Consortium recommends that the credit to ratepayers be amortized over a three-year period, reducing the Company's test year liability insurance expense by $180,000 (id.). The Energy Consortium maintains that an amortization longer than three years would create an unnecessary administrative burden for the Company (Energy Consortium Reply Brief at 4).

With regard to the Company's argument that past rates did not cover the cost of the premiums, the Energy Consortium asserts that such an argument amounts to nothing more than an attempt to assert retroactive ratemaking, which the Department should not accept (id. at 3-4).

b. The Attorney General

The Attorney General agrees with the Energy Consortium's recommendation to amortize the liability insurance credit over a three-year period and reduce the Company's test year liability insurance by $180,000 (Attorney General Reply Brief at 39).

c. The Company

The Company argues that the level of liability insurance expense that has been recovered through rates has consistently been less than the actual expense. Therefore, the Company argues that shareholders paid for the additional expense and that this refund, like any other shareholder-supported investment, should be returned to shareholders (Company Brief at 113-114; Company Reply Brief at 46).

In the alternative, the Company argues that, if the Department finds that ratepayers should receive the credit, the appropriate amortization period is ten years; the same amount of time over which the adjustment was generated (Company Brief at 113-114). Further, the Company asserts that the refund should be amortized without interest because shareholders paid for the refund (Company Reply Brief at 46).

3. Analysis and Findings

Rates are designed to recover a representative level of a company's revenues and expenses based on a historic test year adjusted for known and measurable changes. See Eastern Edison Company, D.P.U. 1580, at 13-16 (1984). While the Company may have, in a given year, incurred a higher or lower level of liability insurance expense than the test year level, Cambridge has recovered test year levels of liability insurance expense through rates for the period covered by the retroactive adjustment.

The Department has found that refunds of insurance premiums, which have been paid for by ratepayers, should be returned in full to ratepayers. Massachusetts Electric Company, D.P.U. 1133, at 44-45 (1982); Massachusetts Electric Company, D.P.U. 200, at 29 (1980). Accordingly, the Department finds that Cambridge's ratepayers are entitled to the entire retroactive adjustment.

The Department finds that the three-year amortization period recommended by the Energy Consortium and supported by the Attorney General will not improperly decrease the Company's test year cost of service. Accordingly, the Department directs the Company to amortize the liability insurance expense adjustment over a three-year period, thus reducing its proposed adjustment to its cost of service by $360,029.

G. Advertising

Cambridge proposed to include all of its advertising costs in its cost of service (Tr. 6, at 34).

1. Positions of the Parties

a. The Attorney General

The Attorney General argues that the Company has improperly included $2,000 of advertising because the advertising can be characterized as image advertising and the Company failed to produce documentation for the expense (Attorney General Brief at 89, citing Exhs. AG-29; AG-202; AG-259; Tr. 17, at 116). The Attorney General asserts that both Massachusetts statutory law and Department precedent require exclusion of "image" or "goodwill" advertisements from cost of service (Attorney General Brief at 89, citing G.L. c. 164, § 33A; Bay State Gas Company, 92-111, at 184 (1992); Berkshire Gas Company, D.P.U. 90-121, at 130-136 (1990)).

b. The Company

The Company states that although the Attorney General's brief is unclear, it appears that the $2,000 he proposes to eliminate includes $600 in organizational advertising, $519 relating to various school booklets, and $834 relating to various consultant costs from the Company's cost of service (Company Brief at 117, citing Exh. AG-202). The Company agrees to remove the $600 in organizational advertising expense and the $519 relating to various school booklets from its cost of service (id.). However, the Company states that there is no record basis for removal of the $834 consultant costs (id.).

2. Analysis and Findings

The Department finds that, as agreed to by the Company and the Attorney General, the $600 in organizational advertising expense and $519 relating to various school booklets shall be removed from the Company's cost of service. The Department agrees with the

Company that it is unclear from the Attorney General's brief what the remainder of the $2,000 represents. The Department finds that there is no record basis for its removal. Accordingly, the Department finds that the Company shall adjust its cost of service by removing $1,119 in advertising expenses.

H. Purchased Power Roll-In

Cambridge has proposed to transfer $11,421,034 of long-term purchased power capacity costs, associated with Seabrook Unit 1 and Canal Units 1 and 2, from its fuel charge into base rates (Exh. CEL-8, Sch. 6, Rev.).[39] The Company calculated its proposed adjustment based on the twelve month period ending December 31, 1993 (id.).

Pursuant to a settlement in Canal Electric Company, Letter Order, 55 F.E.R.C. ¶ 61,113, the Company's entitlement to Canal Unit 1 was increased from 9.70 percent to 19.94 percent; for Unit 2, its entitlement was increased from 9.589 percent to 19.94 percent (Exh. CEL-8, Tab F at 15-16). Because these increases became effective after the date of the Company's last base-rate case, Cambridge Electric Light Company, D.P.U. 89-109 (1989), the Company has recovered the incremental capacity costs associated with the increases through its fuel charge. The Company has proposed to transfer these incremental costs into its base rates (id.). Seabrook Unit 1 began commercial operation on June 30, 1990, after the issuance of D.P.U. 89-109; accordingly, the Company has recovered the full capacity costs associated with this unit through the fuel charge. The Company has proposed to transfer Seabrook's full capacity costs into its base rates (id.).

39 Prior to its filing in this proceeding, the Company included $23,171,000 of purchased power capacity costs in its base rates.

In Western Massachusetts Electric Company, D.P.U. 1300 (1984), the Department found that long-term capacity-related contracts[40] should be accounted for in base rates as opposed to the fuel charge. Id. at 62-69. In Western Massachusetts Electric Company, D.P.U. 86-280-A (1987), the Department found that, in determining purchased power capacity costs, the use of expenses for the most recent twelve months, rather than the test year, will capture the most representative level of fixed demand and maintenance expenses.[41] Id. at 87.

The Department finds that the Company has satisfied the requirements of the Department with respect to long-term purchased power contracts. First, the capacity costs that the Company has proposed to transfer from its fuel charge to its base rates are for contracts that meet the Department's definition of long term. Second, the revised Schedule 6 contains updated information reflecting the Company's purchased power costs for the twelve-month period ending December 31, 1992. Accordingly, the Department approves the purchased power roll-in as submitted by the Company in Schedule 6, Revised.

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40 As established in D.P.U. 1300, long-term contracts are defined as contracts for the purchase or sale of power or transmission services for longer than one year and for a fixed amount, such as a percentage of a generating unit or a fixed amount of capacity Id. at 62-69.

41 The Attorney General commented in his brief that the Department should review the Company's proposed purchased power roll-in to ensure that it satisfies Department precedent, particularly as it applies to the most recent twelve-month period (Attorney General Brief at 78-79).

V. CONSERVATION & LOAD MANAGEMENT AND OTHER MANAGEMENT-RELATED ISSUES

A. Conservation and Load Management

1. Background

In a series of earlier proceedings, Cambridge and Commonwealth Electric ("the Companies") jointly have submitted three Conservation and Load Management ("C&LM") preapproval filings for Department review.[42] In the Companies' first preapproval filing, submitted on November 16, 1989, the Companies requested preapproval of sixteen C&LM programs. Commonwealth Electric Company/Cambridge Electric Light Company, D.P.U. 89-242/246/247, at 31-66 (1990) ("D.P.U. 89-242"). The Department preapproved program designs and budgets for the eight programs that were shown to be cost-effective.[43] In addition, the Department ordered the Companies to submit revised program designs for those programs found not to be cost-effective. Id.

In their second C&LM preapproval filing, submitted on April 16, 1991, the Companies requested preapproval of four programs. Commonwealth Electric

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[42] In D.P.U. 86-36-E (1988), the Department adopted regulations requiring Department preapproval for major investments by electric companies in generation facilities. See 220 C.M.R. 9.00. The Department later found that the preapproval treatment was appropriate for major investments in C&LM. D.P.U. 86-36-F, at 29 (1988). Because Cambridge and Commonwealth perform their resource planning functions in an integrated manner, the Companies submit joint C&LM preapproval filings to the Department.

[43] In preapproving a C&LM program, the Department preapproves the recovery, by the utility, of specified expenditures that reflect the program design presented in the preapproval proceeding.

Company/Cambridge Electric Light Company, D.P.U. 91-80, Phase Two-A at 2-3 (1992) ("D.P.U. 91-80"). The record in that proceeding indicated that four programs that had been preapproved in D.P.U. 89-242 had not been implemented in the ensuing year and were not resubmitted for preapproval in D.P.U. 91-80; the record similarly indicated that the Companies did not submit revised programs designs for programs found not to be cost-effective in D.P.U. 89-242. D.P.U. 91-80, at 22-24. On November 20, 1991, the Companies and certain parties in D.P.U. 91-80 submitted a Settlement Agreement that addressed many of the issues raised in the proceeding.[44] The Settlement contained the following key features: (1) the appointment of an Independent Expert to "advise the Companies ... and the Department on how the Companies should best design, implement, and monitor their CLM programs" (the Independent Expert was charged with submitting reports to the Department detailing the Companies' C&LM activities); (2) the establishment of a Task Force, composed of representatives from each party to the Settlement, to assist the Independent Expert in accomplishing the tasks described above;[45] and (3) the requirement that the Companies design and implement C&LM programs pursuant to the Department directives in D.P.U. 89-242. Id. at 9-14.

On January 15, 1992, the Department issued an Order approving the Settlement.

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[44] The parties to the Settlement were the Companies, the Attorney General, the Division of Energy Resources, the Energy Engineers Task Force, SORE, IRATE, CLF, State Senator Henri S. Rauschenbach, and State Senator William Q. MacLean, Jr. (D.P.U. 91-80, at 7).

[45] The Settlement provided that the Independent Expert would serve as chair of the Task Force (D.P.U. 91-80, at 9-10).

D.P.U. 91-80, at 16-20. In that Order, the Department addressed the issue of whether the Companies' C&LM activities since 1990 were in compliance with Department directives in D.P.U. 89-242. Id. at 28-30. The Department found that, because the Companies had implemented only four of the eight C&LM programs preapproved in D.P.U. 89-242, and had not submitted revised program designs for programs found not to be cost-effective in D.P.U. 89-242, the Companies were "in violation of the preapproval contract and, accordingly, are in violation of the obligation to serve their customers in a reliable, least-cost manner." The Department stated that the Companies' "noncompliance with the Department's directives in D.P.U. 89-242 will be considered fully during the Companies' next base rate cases." Id.

The Companies submitted their third, and most recent, C&LM preapproval filing to the Department on October 1, 1992.[46] Commonwealth Electric Company/ Cambridge Electric Light Company, D.P.U. 92-218 (1993). The analyses included in the filing indicated that many of the programs submitted for preapproval were not cost-effective.[47] Id. at 5-7. On November 30, 1992, the Independent Expert submitted a report (the "IE Report") to the Department commenting on the Companies' 1992 C&LM performance and offering recommendations regarding future expenditure levels, program designs, and staffing levels. Id. at 7.

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46 The Companies submitted a supplemental filing on December 23, 1992. The Department will refer to the initial and supplemental filings jointly as "the filing."

47 Of the ten programs targeted at Cambridge customers, only four were shown to be cost-effective, based on the Company's analysis (Exh. AG-263, Att. D).

On April 9, 1993, the Department issued an Order dismissing the Companies' D.P.U. 92-218 filing without investigation. Id. at 9-14. In that Order, the Department stated that

> [i]n considering the appropriate extent of the investigation of the Companies' filing, the Department must assess (1) the Companies' past implementation of C&LM programs and compliance with previous Department directives; (2) the completeness of the Companies' ... Filing; (3) the voluminous and contentious nature of the comments received; and (4) the integration of the issues raised by both the Companies' ... [C&LM] preapproval proceeding and the IRM proceeding.[48]

Id. Based on its assessment of these issues, the Department found that "adjudication of this case cannot lead to the timely implementation of cost-effective C&LM programs." Accordingly, the Department found that adjudication of the issues in that case was not in the public interest and, thus, dismissed the Companies' filing.[49] Id.

In the instant proceeding, the Company and the Attorney General commented on the extent that the Company's past C&LM activities should be considered in this case.

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48 The Companies submitted their Draft Initial Integrated Resource Management ("IRM") filing, docketed as D.P.U. 91-234, on November 15, 1991 (for a description of the IRM process, see IRM Rulemaking, D.P.U. 89-239 (1991)). In a May 29, 1992 Order in D.P.U. 91-234, the Department directed the Companies to submit C&LM Request for Proposals for Department review on July 1, 1993, to begin procuring C&LM resources on July 1, 1994. Id. at 2-3.

49 The Department notes that issues regarding conservation voltage regulation, the recovery of lost base revenues, and the Companies' 1992 C&LM performance are the subject of an ongoing investigation in D.P.U. 93-15/16.

2. Positions of the Parties

a. The Attorney General

The Attorney General states that the Department previously has found that deficiencies in an electric company's C&LM performance may constitute a violation of a company's public service obligation, and argues that the Department should make such a finding in the instant proceeding (Attorney General Brief at 4, citing Boston Edison Company, D.P.U. 85-266-A/271-A (1986) and Western Massachusetts Electric Company, D.P.U. 87-260 (1988)).

The Attorney General asserts that, because most of the C&LM programs submitted by the Company in D.P.U. 92-218 were not cost-effective, the Company proposes to offer very limited C&LM services to its customers and, indeed, would offer no C&LM services to its residential customers (id. at 7-11). The Attorney General argues that, since other electric utilities in Massachusetts have designed cost-effective programs targeting all customer sectors, the Company's limited C&LM activities are unacceptable and are "further evidence of the Company's continuing violation of its public service obligation" (id.). In addition, the Attorney General contends that, historically: (1) a low percentage of the Company's customers have participated in its C&LM programs; (2) the Company has not exhibited sufficient control over its C&LM expenditures; and (3) the Company knowingly has paid prices for certain C&LM measures above the prices submitted through competitive bids (id. at 11-13).

The Attorney General argues that, because of the Independent Expert's extensive involvement with the Company's C&LM activities over the past year, the Department, in its analysis of the Company's C&LM performance, should assign substantial weight to the opinions expressed in the IE Report (id. at 7). The Attorney General characterizes the IE Report as being "overwhelmingly critical" of the Company's C&LM performance, noting that the IE Report states that "significant changes are needed in the Companies' C&LM area ... [T]he Companies are not going to make these changes on their own, not even with the guidance and direction by the Task Force" (Attorney General Reply Brief at 2, citing Exh. AG-269, at 96-97). In addition, the Attorney General contends that, contrary to the Company's claims, the non-Company members of the Task Force have been highly critical of the Company's C&LM efforts (id. at 3).

In conclusion, the Attorney General notes that in D.P.U. 91-80, the Department put the Company on notice that its failure to meet its public service obligation would be an issue in its next rate case (Attorney General Brief at 13-14). The Attorney General asserts that the Company's violation of its public service obligation continues at the present time and recommends that the Department: (1) set the Company's return on equity at the lower end of the reasonable range; (2) exclude allocated Service Company management incentive expenses; and (3) order that a copy of this Order be sent to the Company's Board of Trustees (id. at 15).

b. The Company

The Company asserts that it has made, and continues to make, significant improvements in its C&LM efforts to address concerns raised by the Department and the IE Report (Company Brief at 4). The Company contends that it has successfully addressed the three issues raised in D.P.U. 91-80 that it has identified as being principal issues: (1) high rate impacts; (2) lack of comprehensive programs; and (3) insufficient staffing levels (id. at 5). First, the Company asserts that unacceptably high rate impacts due to its aggressive C&LM implementation have been addressed by the Company's cost containment efforts; in addition, its quarterly C&LM expenditure reports to the Department provide protection against overexpenditures. Second, the Company contends that the lack of program designs for some customer sectors has been addressed by the comprehensive array of program designs it proposed in its filing in D.P.U. 92-218. Finally, the Company states that it has significantly increased its C&LM staffing level in order to provide the required level of C&LM services (id.).

The Company asserts that it "has worked diligently with the Task Force and has been highly responsive to recommendations advanced by the" IE Report (id. at 17). The Company claims that, where the Company has had a good faith disagreement with the Independent Expert, it has stated its reasons in writing, consistent with the provisions of the Settlement Agreement and the Department's Order in D.P.U. 91-80 (id. at 6).

The Company cites the following activities as examples of achievements it has made in the C&LM area since the issuance of D.P.U. 91-80: its work with the C&LM Task Force; successful implementation of the Hot Water/General Use Program; extensive inspection activities in its Commercial and Industrial Programs;

an improved database and reporting system; the undertaking of process and impact evaluations for its C&LM programs; development of a study on conservation voltage regulation; participation in the Golden Carrot Efficiency Program; and discussions with Commonwealth Gas regarding piggybacking its C&LM efforts (id. at 6-7). The Company argues that the Attorney General has failed to acknowledge these achievements and the notable areas of commendation contained in the IE Report and in intevenor IRATE's comments to the Department in D.P.U. 92-218 (id. at 7-9).

The Company contends that, historically, the cost-effectiveness of its programs compares favorably with those of other Massachusetts electric companies (id. at 9). With respect to the Attorney General's argument that the Company has failed to design cost-effective programs, the Company notes that a program's cost-effectiveness depends in part on each utility's avoided costs. The Company asserts that, because its avoided costs are currently lower than the avoided costs of some other Massachusetts electric companies, C&LM programs that are cost-effective for other utilities may not be cost-effective from the Company's perspective (id. at 9-11). The Company also notes that, in its Supplemental Filing in D.P.U. 92-218, it submitted an updated cost-effectiveness analysis that showed that most of its programs might be cost-effective, depending on the cost and savings assumptions that are used in the analysis (id. at 12).

The Company argues that the record in the instant proceeding contradicts the Attorney General's arguments regarding the Company's C&LM participation rates, its cost controls, and the costs it has paid for specific C&LM measures (id. at 12-15).

The Company asserts that: (1) the process evaluations for its programs demonstrate that its market penetration has been commendable; (2) actual C&LM expenditures varied from projected expenditures by only 12.4 percent, a level of variance that is not indicative of a lack of cost control; and (3) the process evaluations for its programs conclude that equipment prices remained stable throughout the programs' duration (id.). Finally, the Company states that, contrary to the Attorney General's claim, several of the programs submitted for preapproval in D.P.U. 92-218 would provide services to the residential sector (Company Reply Brief at 12).

In conclusion, the Company argues that the Attorney General's allegations regarding the Company's C&LM performance are "unfounded and should be squarely rejected" (Company Brief at 17-18). The Company asserts that a reduced rate-of-return due to its C&LM performance is unjustified, in particular because the Company has refrained from requesting the recovery of lost base revenues and/or an incentive in order to minimize rate impacts on its customers (id.). The Company proposes an alternative approach to resolving the dispute over its C&LM performance, in which performance milestones are established and the Company is rewarded for meeting the specified milestones or penalized for failing to meet such milestones (id.).

3. Analysis and Findings

The issue to be decided here is whether, and to what extent, the Department should consider the Company's C&LM efforts in this case. In D.P.U. 91-80, the Department found that, because the Company did not comply with Department directives from D.P.U. 89-242, the Company was in violation of its obligation to provide reliable least-cost service to its customers.[50] Id. at 28-30. Accordingly, the Department placed the Company on notice that its non-compliance with the Department's directives would be "considered fully during its next base-rate case." Id.

In the instant proceeding, the Company undertook to demonstrate that its C&LM efforts since the issuance of D.P.U. 91-80 have improved notably and have mitigated the need to address its C&LM performance in this proceeding. The Department emphasizes that its finding of non-compliance in D.P.U. 91-80, and its intention to consider fully such non-compliance in the next rate case, were not linked to an evaluation of the Company's post-D.P.U. 91-80 C&LM efforts. Even if the Company, in the instant proceeding, could successfully demonstrate improvement in its C&LM activities since the issuance of D.P.U. 91-80, the Department still may take action, in this case, to address the Company's previous non-compliance with Department directives. The Company's post-D.P.U. 91-80 C&LM activities would be considered only as a factor to determine the type and magnitude of action that the Department would impose in response to our previous findings.

In D.P.U. 91-80, the Department stated, "The Companies' success in designing and implementing effective C&LM programs ... has been a contentious

50 As noted above, the Department's finding of noncompliance was based on the Company's failure: (1) to implement certain programs that were preapproved in D.P.U. 89-242; and (2) to submit revised program designs for programs found not to be cost-effective in D.P.U. 89-242. D.P.U. 91-80, at 22-30.

issue in this case." Id. at 17. As noted above, the Company submitted its most recent C&LM preapproval filing on October 1, 1992, approximately nine months after the issuance of D.P.U. 91-80. See D.P.U. 92-218 (1993). The Company refers to its filing in D.P.U. 92-218 as demonstrating that it has successfully addressed the program design and implementation problems raised in D.P.U. 91-80. However, the Department notes that the Company's cost-effectiveness analyses in D.P.U. 92-218 indicated that only four of the submitted program designs could be implemented cost-effectively. The Department, in dismissing the Company's filing in D.P.U. 92-218, found that the filing was "incomplete on ... [its] face and therefore not in compliance with the Department's previous Orders". Id. at 10. The Department added that, had the Company's filing "been complete, and had it reflected a greater degree of consensus by the Task Force, as anticipated, ... [C&LM] programs could have been in place by January, 1993." Id. at 12.

In the end, it is clear that the Company's C&LM efforts since the issuance of D.P.U. 91-80 have resulted in very few benefits to its ratepayers. As of the date of this Order, the Company offers its ratepayers C&LM services through only one ongoing program. Accordingly, the Department finds that the Company has not demonstrated that its C&LM performance since the issuance of D.P.U. 91-80 should serve to mitigate the Department's ratemaking response to its previous findings of non-compliance. Accordingly, based on the record in the instant proceeding and the findings set out in D.P.U. 91-80, the Department finds it necessary to take the following actions: (1) the Company's poor performance in the C&LM area will contribute to its return on equity being set at the lower end of the reasonable range (See Section VI, infra); (2) Cambridge's allocation of the Service Company's management incentive compensation, an amount equal to $18,816,[51] will be excluded from the test year cost-of-service; and (3) the Company shall immediately hand deliver a copy of this Order to each member of ComEnergy System's Board of Trustees, so that the Board is made aware of the Department's concern regarding management's poor performance in the C&LM area.[52]

B. Cost Containment and Management

The Attorney General raises further concerns with the Company's efforts to contain its costs and effectively manage its affairs (Attorney General Brief at 15-33; Attorney General Reply Brief at 9-17). These concerns are addressed below. Issues relating to specific cost of service items are addressed in Section IV, above.

This section of the Order frequently references a recent Department-ordered management audit (hereafter "management audit") of Commonwealth Electric. In Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80 Phase One (1991) ("D.P.U. 90-331"), the Department found that an independent management audit of Commonwealth Electric was necessary and ordered that

> ... [t]he independent management audit ... would address at a minimum:

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[51] See Tr. 17, at 55.

[52] The Department notes that these actions are similar to those taken in Boston Edison Company, D.P.U. 85-266-A/271-A (1986). In that proceeding, the Department found that Boston Edison failed to "address adequately its public service obligation." Id. at 6-15.

(1) the strategic planning process; (2) budgetary development and control; (3) the management of outside services, such as lawyers and consultants, employed by the Company; (4) employment policies including hiring, training, the level of wages and salaries of all employees including any accommodations made to employees as part of a retirement package; (5) capital and operating cost controls; and (6) customer relations.

Id. at 197-198.

Pursuant to a Department-approved RFP and the Department's selection of a firm from the respondents to said RFP, the management audit was performed by Ernst & Young (Id.; Exh. AG-235). Ernst & Young submitted its final report publishing the results of the management audit to the Department and Commonwealth Electric on October 9, 1992. The management audit contains 63 specific recommendations, many of which directly relate to the concerns raised in this section (Exh. AG-235).

1. Positions of the Parties

a. The Attorney General

The Attorney General argues that Cambridge experienced the same management problems that led to the Department's ordering of Commonwealth Electric's recent management audit (Attorney General Brief at 16, citing D.P.U. 90-331, at 193-198; Exh. AG-235). He further asserts that Cambridge and Commonwealth Electric are managed as one entity for most purposes, and, thus the recommendations made in the management audit are generally applicable to Cambridge (Attorney General Brief at 16 n.12).

The Attorney General maintains that Cambridge has failed to contain its costs and therefore the Company's test year costs are overstated (id. at 16). The Attorney General identified the following types of costs in which he asserts cost containment efforts could be improved: costs exceeding amounts budgeted; costs for outside services, including costs associated with legal, financial auditing, and employee benefits programs; and construction costs (id.).

The Attorney General maintains that in D.P.U. 90-331, the Department found that Commonwealth Electric did not have a formal policy of re-evaluating its budget if actual expenditures were higher or lower than those originally projected (id.). The Attorney General contends that Cambridge has not adopted a policy of re-evaluating its budget and that the result of this omission is inflated test year costs (id. at 16-17).

In addition, the Attorney General contends that Cambridge also did not control its outside service costs, as exemplified by its lack of competitive bidding and/or formal contracting procedures, especially in obtaining outside legal services. (id. at 17-19). The Attorney General also argues that the absence of these measures "raises a conflict of interest concern" because a partner of the firm rendering legal counsel to Cambridge is also a member of the Company's Board of Trustees. Furthermore, the Attorney General recommends a cost cap to control the possibility of excessive legal fees (id. at 18).

With regard to construction costs, the Attorney General urges the use of construction budget authorizations ("CBA")[53] to determine both the direct and indirect project costs which are assigned to Cambridge (id. at 21). The Attorney General indicates that only those costs directly assigned to Cambridge are currently budgeted by CBA, thereby raising the

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[53] A construction budget authorization is a form which provides information about a particular authorized project, and most notably for this discussion, the estimated cost of the project. See AG-RR-87.

issue of how the Company can control total project costs (id.). Recognizing the Company's assertion that in the future it will incorporate indirect costs into its CBAs as well as its cost/benefit analyses, the Attorney General contends that its existing practice is evidence of poor management (id. at 21-22). Moreover, the Attorney General argues that the Company's management has been deficient by not requiring cost/benefit analyses for each specific and general ("blanket") CBA (id. at 21-24).

Further, the Attorney General argues that by maintaining executive and administrative offices in both Cambridge and Wareham, the Company has not operated cost-effectively (id. at 24). The Attorney General asserts that economies of scale are lost due to duplication of various operations, including human resources, computer facilities, information services, certain accounting functions, and audit preparation (id.). The Attorney General argues that the Company has not met its burden in this rate case to justify the costs associated with performing duplicative functions at the Cambridge and Wareham offices (id.).

Finally, the Attorney General contends that Cambridge has made several imprudent management decisions, including the purchase of power from Seabrook; intercompany allocations which are not supported by a written contract; Cambridge's decision not to implement an early retirement program when such a program was being implemented for Cambridge's affiliates; policies for compliance with the Federal Contract Compliance Program regarding an alleged underutilization of women and minorities in six out of eight job categories; the failure to deduct WMIS software development costs on the Company's tax returns; and decisions by the Company's non-utility affiliates, including their sale of parcels of real property, which adversely affect the Company (id. at 26-33).

b. The Company

Cambridge denies the Attorney General's allegations that it has not adequately contained costs and that its management has acted imprudently (Company Brief at 18-34; Company Reply Brief at 14-20). The Company asserts that there is no evidence in this case to suggest that management failures precipitating the Department's Order of a management audit for Commonwealth Electric are present in this case (Company Brief at 20). The Company maintains that while it is making improvements in response to the management audit, "many of the [Attorney General's] allegations and conclusions are based upon a different company in a different time period" (id. at 19). However, the Company's then-president, Mr. Scherer, testified that the findings in the management audit dealing with areas for improvement were equally applicable, with "minor variances," to both Cambridge and Commonwealth Electric (Tr. 5, at 112).

In response to the Attorney General's arguments regarding its budget reevaluation policy, the Company states that it regularly reevaluates budgets and expenditures through its Budget and Cost Review Committee. The Company also argues that the management audit includes statements which endorse the Company's budgeting and cost containment efforts (Company Brief at 21, citing Exh. AG-235, § III, at 17, 22, 23, 24).

The Company also argues that it has been successful in controlling the costs of its outside services (Company Brief at 23). In particular, Cambridge contends that its legal fees in this proceeding are reasonable given the nature and complexity of the case and that adequate cost controls are in place, obviating the need for the contracting and competitive bidding procedures suggested by the Attorney General (id. at 23-26). With regard to the

Attorney General's concern about self-dealing, the Company points out that its in-house legal counsel decides what firm it engages for a particular purpose, and notes that the Company uses several law firms (id. at 25-26). The Company also contends that its financial auditors' charges were competitive and that its choice of health care providers "appears to be a least cost approach" (id. at 19, 26).

With regard to construction costs, the Company indicates that it currently monitors indirect project costs on a collective, rather than an individual, basis. The Company maintains that it will perform cost/benefit analyses on all specific construction projects over $40,000 and all blanket construction projects (id. at 21-22).

Cambridge defends its use of two offices for administrative and executive functions, particularly those relating to accounting operations, by indicating that there are benefits of some operations being centralized and others being performed at a decentralized level (e.g., tax matters and managerial accounting are handled centrally and human resource activities and related accounting are handled at various locations) (id. at 26-27).

Further, in support of its position that it has contained costs, the Company notes (1) that its residential rates are lower than the residential rates of two-thirds of other New England electric companies, and (2) its commercial rates are approximately in the mid-range of rates for New England electric companies (id. at 20).

Finally, Cambridge disputes the Attorney General's broader allegations of mismanagement, pointing out that its decisions regarding purchased power contracts cannot be evaluated retrospectively (id. at 28-29); the absence of written contracts with its affiliates does not indicate inability to control costs (id. at 29); the Company had a reasoned basis for not offering an early retirement plan to its employees in 1989 (id. at 30); the Company's noncompliance with the Federal Contract Compliance Program in 1990 concerned a reporting requirement rather than a finding of underutilization of females and minorities (id. at 31); Cambridge made an informed decision not to deduct on a current basis its WMIS software development costs (id.); and the Company made prudent decisions regarding its sale of non-utility assets, notwithstanding the fact that Cambridge's ratepayers are unaffected by the rates of return for its non-utility affiliates (id. at 32-33). Accordingly, the Company concludes that there is no evidence of management imprudence in the record of this case (id. at 34).

2. Analysis and Findings

The Department has considered carefully the Attorney General's arguments regarding Cambridge's ability to contain costs and manage its affairs effectively. The Department considers these issues to be central to a utility's obligation to serve its ratepayers reliably, safely, and at the least possible cost. See D.P.U. 90-331, at 193.

The record in this proceeding includes a recent Department-mandated management audit of Cambridge's retail affiliate, Commonwealth Electric, which contains evaluations, findings and recommendations that are applicable, with "minor variances", to Cambridge (Tr. 5, at 112; Exh. AG-235). Although the Company argues that there is no evidence that the management problems which precipitated the Department's requirement of an audit in D.P.U. 90-331 are present in Cambridge's case, this position is inconsistent with the Company's own admission that the management audit's findings generally apply to both Cambridge and Commonwealth Electric. Therefore, since these two companies operate under the same parent corporation, engage in the same line of business in the same jurisdiction, and share many of the same managers, the Department finds that a substantial number of audit findings and recommendations are applicable to Cambridge and should be implemented immediately by Cambridge to address problems that the two companies share. Thus, we expect Cambridge, at its earliest opportunity, to apply to its own operations the audit's findings wherever possible, and be prepared in its next rate case filing to explain and support its efforts in this regard. Moreover, we encourage the Company to consider and implement measures beyond those identified in the management audit to ensure that the Company fulfills the management and cost-containment goals articulated in this and other Department orders. See D.P.U. 90-331, at 193-198; Massachusetts Electric Company, D.P.U. 92-78, at 29-30 (1992).

The Department shares the Attorney General's concerns regarding cost containment. Accordingly, regarding its budgeting functions, consistent with the recommendations made in the management audit, we direct the Company to adopt sufficient procedures to ensure that expenditures which are higher or lower than originally determined are identified, explained, and reevaluated on an ongoing basis.

With respect to the Company's ability to control the costs of its outside services, we agree with the Attorney General that the Company's ratepayers likely would benefit from a selection process which includes elements of competition. As stated in the management audit

> Increasing competitive bidding ... should improve the quality and cost effectiveness of the services received.
>
> Most legal services contracts do not appear to have been open to competitive bidding in the recent past. While complex professional services are more difficult to quantify and therefore competitively bid, they also usually have some of the higher returns for doing so.

Exh. AG-235, Section IV, at 13-14. The Department fully concurs with this recommendation. Accordingly, the Company is directed to evaluate fully competitive mechanisms for procurement of all outside services, including legal services, before its next rate case, and, if appropriate, incorporate more competitive mechanisms into the selection of such providers.

With regard to legal services in particular, the Department shares the serious concerns expressed by both the management audit and the Attorney General. The management audit found that (1) "[e]xpenditures on legal services do not appear to be as thoroughly controlled as other service purchases"; and (2) the Company does not objectively or vigorously evaluate the quality of its legal services and their impact on external stakeholders, such as customers and regulators (Exh. AG-235, § IV, at 18-19).[54] In addition to recommending the increased use of competitive bidding, the management audit also recommends (1) regularly reviewing invoices to ensure that purchases were appropriately made; and (2) assessing the performance of legal service providers based on both the Company's and the external stakeholder's satisfaction with the providers' performance (id. at 20-21). The Department fully concurs with these recommendations and directs the Company to implement them immediately. In addition, the Department directs the Company to fully explore all methods to control legal

[54] The management audit's findings and recommendations regarding the evaluation of legal services also apply to other outside service providers, such as tree trimming companies, that have an impact on external stakeholders (Exh. AG-235, § IV, at 19, 21).

costs, and to regularly assess and maximize the quality of the legal services it purchases.[55]

The Department also finds that construction costs which are indirectly or directly assigned to the Company must be fully monitored and controlled. To this end, we direct the Company to implement fully the recommendations in the management audit, including the recognition of indirect costs in its CBAs and its cost variance reports. In addition, we order the Company to implement immediately its proposal to utilize cost/benefit analysis for all specific construction projects exceeding $40,000, and to budget all indirect costs by CBA. Further, as noted by the Attorney General, it is incumbent on Cambridge to support the authorizations for these projects with sufficiently detailed cost/benefit analyses, commensurate with a project's projected complexity and expense.

Finally, the Department recognizes that, in response to the management audit, the Company has started to implement certain changes in its cost-containment and management efforts. We expect that the additional measures ordered herein also will be implemented without delay, and we welcome the Company's further initiative in these areas. Taken together, these steps will provide real and immediate benefits to ratepayers. The Department will verify the Company's progress in future rate cases and other proceedings, and, if measurable progress is not demonstrated, the Department will take any and all steps necessary to ensure that Cambridge serves its ratepayers reliably, safely, and in a least-cost manner.

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55 We decline to address the issue raised by the Attorney General regarding the "potential for self-dealing" in the Company's decisions regarding legal services. Instead, we note that implementation of the measures mentioned above should alleviate this concern.

As directed by the Department in Section V.A., above, the Company shall immediately hand deliver a copy of this Order to each member of Com/Energy System's Board of Trustees, so that the Board is made aware of the Department's concern regarding management's poor performance.

VI. CAPITAL STRUCTURE AND RATE OF RETURN ON COMMON EQUITY

A. Capital Structure

1. The Company's Proposal

As of the end of the test year, the Company's capital structure consisted of 50.17 percent long-term debt and 49.83 percent common equity (Exh. CEL-9, exh. D). The Company stated that after making its sinking fund payments on June 1, 1993 (the date by which this Order would be issued), its capital structure will consist of 50.11 percent debt and 49.89 percent common equity (Exh. CEL-2, at 11).

For ratemaking purposes, the Company proposed the use of a proforma capital structure consisting of 50 percent debt and 50 percent equity (Exh. CEL-8, at 34). Cambridge asserted that the use of this debt/equity ratio is appropriate because: (a) the terms of its indenture requires an equal balance of debt and equity in order to undertake new long-term financing; (b) Cambridge has historically maintained a common equity ratio at or above 50 percent; and (c) a 50:50 debt/equity ratio best approximates prospective conditions during the period the resulting rates would be in effect (Exh. CEL-2, at 21).

2. Positions of the Parties

a. The Attorney General

The Attorney General opposes Cambridge's proposed pro forma debt/equity ratio. He contends that the Company's actual and Order date capital structure demonstrates that the indenture does not require the Company to maintain a 50:50 debt/equity ratio (Attorney General Brief at 93). In addition, the Attorney General points out that regardless of the indenture, the Department is not bound to the Company's proposed capital structure, particularly in light of what the Attorney General contends are "artificial restrictions" on the Company's ability to raise capital (id. at 93-94). Finally, the Attorney General argues that the Company's proposed adjustments to its capital structure to achieve the 50:50 debt/equity ratio are not known or measurable (id. at 94). The Attorney General advocates the use of the Company's test year capital structure, adjusted for known and measurable changes (Attorney General Reply Brief at 43).

b. The Company

Cambridge claims that under the terms of its indenture, equal amounts of debt and common equity are required in order to undertake financing (Company Brief at 132 n.116). The Company predicts that its capital structure will return to a 50:50 debt/equity ratio in the near future, whether through the required sinking fund payments or improved earnings (id. at 132 n. 16). Therefore, Cambridge concludes that its proposed capital structure is historically and prospectively more indicative of its actual capital structure ratio (id). The Company asserts that its proposed capital structure is virtually indistinguishable from the actual capital structure that will be in effect as of the date of this Order, particularly once its June 1994 sinking fund payments are made (Company Reply Brief at 59).

3. Analysis and Findings

The Department permits companies to include known and measurable post-test year changes to their test year-end capital structures to reflect the capital structure most representative of capital costs which the company can expect to incur during the period in which the approved rates will be effective. Boston Edison Company, D.P.U. 85-266-A/271-A at 153 (1986); Boston Edison Company, D.P.U. 906, at 106-109

(1982). The Department has found it necessary to impute a capital structure only in those instances where a company's actual capital structure deviates substantially from sound utility practice. High Wood Water Company, D.P.U. 1360, at 26-27 (1983); Nantucket Electric Company, D.P.U. 91-106/138, at 97 (1991). The Company's proposed capital structure does not reflect known and measurable changes to the various components of the Company's capital structure and capital costs. Additionally, the Company has not suggested that the capitalization which its management has formulated over time creates a burden on ratepayers. Bay State Gas Company, D.P.U. 1122, at 86-87 (1982). Accordingly, the Department rejects Cambridge's proposed capital structure.

Considering the sinking fund payments on the Company's Series C and Series D notes, the capital structure as of the date of this Order is 50.11 percent debt and 49.89 percent equity (Exh. CEL-2, at 21). Accordingly, this capital structure shall be used to determine the Company's revenue requirement.

B. Cost of Debt

1. The Company's Proposal

Cambridge proposed an 8.95 percent cost for long-term debt (Exh. CEL-2, at 22). In determining its proposed cost of long-term debt, the Company first calculated the effect of issuance costs on the effective rate for each series of long-term debt using the yield to maturity ("YTM") method (id. at 22-23). The Company defined yield to maturity as the rate of discount that equates the present value of all future interest and principal payments with the net proceeds of the bond (id.). Next, Cambridge calculated the weighted effective rate of each long-term debt series based on the proportion of each series' outstanding balance to the total outstanding debt (id., Sch. 5, at 1). The sum of the weighted effective rates for all debt series represents the Company's proposed cost of long-term debt (id.).

In response to an Attorney General information request, the Company performed the calculation using the method prescribed by the Department in Berkshire Gas Company, D.P.U. 90-121, at 160-161 (1990) (Exh. AG-151). In D.P.U. 90-121, the Department prescribed that issuance costs were to be amortized over the life of the security issue which produced those costs without a return on the unamortized portion of the issuance costs. Id., at 159-161. This method resulted in an embedded cost of debt rate of 8.91 percent (id.).

2. Positions of the Parties

a. The Attorney General

The Attorney General opposes the Company's proposed cost rate of 8.95 percent for its long-term debt issues. The Attorney General argues that, consistent with Department precedent, issuance costs should be amortized over the life of the issue without providing a return on the unrecovered portion of the issuance costs (Attorney General Brief at 92, citing D.P.U. 90-121, at 160-161, and Boston Edison Company, D.P.U. 86-71, at 12 (1986)).

b. The Company

The Company notes that it relied on the YTM method for calculating its cost of long-term debt (Company Brief at 132-133). Cambridge argues that this method is appropriate for evaluating the effective cost of a particular debt series because the YTM method recognizes both the recurring cost of debt issuance and the fact the Company's net proceeds from the financing are reduced by the cost of the issuance (id. at 133). Moreover, the Company claims the YTM method is the most frequently used approach for calculating the true yield on a bond both by investors and in public utility rate cases (id.).

3. Analysis and Findings

The Department's precedent on the treatment of issuance expenses and call premiums in the calculation of the cost rate of long-term debt and preferred stock is well established. The Department has consistently ruled that issuance costs should be amortized over the life of the issue, without a return on the unamortized balance. Massachusetts Electric Company, D.P.U. 92-78, at 91-92 (1992); D.P.U. 90-121, at 159-161.

In D.P.U. 90-121, the Department found that debt issuance costs, including call premiums, are extraordinary non-recurring costs because the amount of the expenses and the time between the incurrence of the expenses cannot be normalized. Id. at 159-161, citing Boston Edison Company, D.P.U. 86-71, at 12 (1986). The Department does not allow recovery of non-recurring expenses unless they are extraordinary in nature. Extraordinary, non-recurring expenses can be recovered through amortization over an appropriate period -- in this case, the life of the issue. However, the Department has not allowed a return on the unamortized balance. Id.; Fitchburg Gas and Electric Light Company, D.P.U. 1270/1414, at 32-33 (1983).

The Department has indicated that in setting its policy on the treatment of issuance costs, the policy was intended to be consistent with the ratemaking treatment of call premiums. D.P.U. 92-78, at 91-92; Western Massachusetts Electric Company, D.P.U. 85-270, at 237 (1986). Furthermore, the Department has held that since a company determines the timing of an issuance, it is appropriate for a company to bear some of the risk associated with changes in the financial markets. See D.P.U. 92-78, at 92; Boston Gas

Company, D.P.U. 86-71, at 15 (1986).

The arguments raised by the Company, that the treatment of debt costs understates the Company's cost of debt and that the method employed in D.P.U. 90-121 to determine these costs as non-recurring does not apply to Cambridge, are not new. These arguments have been considered and rejected in the past by the Department. See D.P.U. 92-78, at 91-93. The Company's arguments do not persuade us to depart from our clearly established precedent regarding the treatment of debt issuance costs and call premiums. Accordingly, the Department denies the Company's proposal relating to the treatment of issuance expenses and call premiums in the calculation of the cost rate of long-term debt and preferred stock. The Department finds that the appropriate cost of debt is 8.91 percent.

C. Return on Common Equity

1. Introduction

Cambridge proposed a 12.25 rate of return on common equity (also referred to as "return on equity" or "cost of equity"). In determining its cost of equity proposal, the Company relied on a discounted cash flow ("DCF") analysis, a risk premium analysis, a capital asset pricing model ("CAPM"), and a comparable earnings approach. Cambridge used the DCF model and risk premium analysis as the primary methods, and its CAPM and comparable earnings approach as supplemental methods for estimating the required cost of common equity (Exh. CEL-2, at 3). These four alternative methods are addressed infra. The spread of equity calculations ranged between 10.42 percent using a DCF model and 13.65 percent using a comparable earnings approach, with an average between all four approaches of 12.38 percent (id. at 45). Therefore, the Company concluded that a

12.25 percent return, falling between the 11.71 percent average results of the DCF and the risk premium analyses, and the 12.46 percent produced by the CAPM, was the lowest reasonable equity return required by Cambridge (id. at 45-46).

2. Selection of Barometer Group

a. Introduction

Because Cambridge is a wholly-owned subsidiary of COM/Energy, there is no market data for the Company's common stock, and consequently no means to directly assess investor expectations of the Company's required return. Thus, the Company provided an analysis of six companies ("Barometer Group") considered to be of generally comparable risk to Cambridge[56] (Exh. CEL-2, at 12). The resulting barometer group includes Atlantic Energy, Central Louisiana Electric Company, Empire District Electric Company, IPALCo Enterprises, KU Energy Corporation, and Otter Tail Power Company (id., Sch. 2, at 2).

In addition to the use of a Barometer Group, the Company provided an analysis of the fundamental risk of Cambridge in comparison to the barometer group and in comparison to the S&P Public Utilities (id. at 13). The Company asserted that, based on measures of credit quality; i.e., pre-tax interest coverage, debt/equity ratios, funds from operations, and net

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56 The selection criteria included: (1) companies listed in Standard and Poor's ("S&P") Utility Compustat II; (2) identification as electric utilities with SIC Code 4911; (3) actively-traded common stock; (4) operating in the Northeast, Southeast, Great Lakes, North Central, or South Central regions; (5) investment-grade bonds with ratings from major rating agencies; (6) either an operating electric utility or a holding company with no more than one electric utility subsidiary; (7) not having reduced or omitted dividends; (8) permanent capital between $30 million and $2,000 million; (9) total revenues of not more than $1,000 million; (10) at least 85 percent of revenues derived from electric sales; and (11) a fiscal year ending December 31 (Exh. CEL-2, at 12).

cash flow, Cambridge's financial performance has been generally within the benchmarks for a BBB rated utility, but lags behind the Barometer Group (id. at 14-19; Exh. CEL-2, Sch. 1, at 5). Cambridge maintained that in addition to its high financial risk characteristics noted supra, it has a higher operating risk than the Barometer Group, as evidenced by its small size, large concentration of revenues from commercial customers, and heavy reliance on purchased power (id. at 19).

b. Positions of the Parties

i. Attorney General

While conceding that Cambridge may currently have greater financial risks than the companies included in its Barometer Group, the Attorney General argues that the Company has overestimated the level of business risk (Attorney General Reply Brief at 44-45). First, the Attorney General notes that the Department has found companies without generation responsibilities, such as Cambridge, exhibit less business risk (id. at 44, citing Massachusetts Electric Company, D.P.U. 92-78, at 110 (1992)). Furthermore, the Attorney General argues that in comparison to Cambridge, the companies included in the Barometer Group have less fuel diversity and face greater risks associated with the Clean Air Act and future environmental requirements (id. at 44-45). However, the Attorney General concludes that, on balance, Cambridge is of similar risk to the Barometer Group (id. at 45).

ii. Company

Cambridge argues that the electric utility industry now exhibits higher risk factors today than in the past, arising from the Clean Air Act, other environmental regulations, "challenges" to traditional regulatory concepts, and competition from non-utility generators and self-generation (Company Brief at 133-135; Company Reply Brief at 59).

In addition to these industry risks, the Company asserts that it faces a number of other risks. The Company claims that its smaller sales growth rate, reliance on commercial sales, and the large proportion of purchased power in its total supply portfolio increase its risk (Company Brief at 135-136). The Company cites the Department's performance reviews and subsequent risk of significant cost disallowances, as well as increased compliance costs associated with the Clean Air Act as a source of additional risk associated with Cambridge's reliance on purchased power (id. at 136-139).

Additionally, the Company maintains that the Department's regulatory policies enhance Cambridge's financial risks. Cambridge maintains that the Department's policy requiring capacity costs to be recovered through base rates creates significant variation in earnings and cash flow (id.). Finally, the Company argues that its large construction program to meet projected growth and to upgrade existing plant emphasizes the need for it to earn a reasonable return on equity (id. at 137-138). Cambridge argues that the Attorney General has inappropriately discounted the risk associated with its reliance on purchased power, and claims that the Attorney General's assertions are refuted by this record (Company Reply Brief at 59-60).

The Company maintains that it has a greater investment risk than the Barometer Group, as indicated by Cambridge's lower bond rating, smaller common equity ratio, earned return on equity, operating ratios, fixed charge coverage, and quality of earnings (Company Brief at 139-142). However, Cambridge emphasized that it made no adjustment to the Company's required return on equity to reflect this higher risk (Company Reply Brief at 61).

c. Analysis and Findings

In determining an appropriate group of companies to use as a comparison, the Department has found that it is not necessary to find utilities that are identical to the utility being analyzed. The Department has required companies to use valid criteria to choose the Barometer Group and to provide sufficient financial and operating data to allow the Department to review any differences between the investment risks of the comparison group and the subject company. Essex County Gas Company, D.P.U. 87-59, at 68 (1987).

The Department finds that the Company performed a thorough analysis of its relative risks and those of the Barometer Group. While the Company is correct that certain factors indicate that Cambridge is riskier than the comparison group, other factors indicate that the Company is less risky than, or of similar risk to, the Barometer Group. Because Cambridge's sales are 64.6 percent commercial in comparison to the Barometer Group's aggregate commercial sales of 30.8 percent, the Department finds that there is an added measure of business risk on the Company as compared to the Barometer Group (Exhs. CEL-2, at 6-7; AG-173). Likewise, the Company's common equity ratio is somewhat lower than that of the utilities contained in the Barometer Group, and Cambridge is smaller in size than the members of the Barometer Group. However, the Department also finds that Cambridge has less business risk arising from its greater reliance on purchased power. See D.P.U. 92-78, at 110. On balance, the Department finds that Cambridge is reasonably comparable to the Barometer Group relied on in this proceeding. As the Company did not attempt to quantify the magnitude of risk it faced versus the utilities comprising the Barometer Group, the Department does not find it necessary to specify the relative risk of

Cambridge in relation to the Barometer Group.

3. DCF Analysis

a. Introduction

The DCF model postulates that the value of an asset is equal to the present value of future expected cash flows discounted at the appropriate risk-adjusted rate of return (Exh. CEL-2, at 27). In its simplest form, the risk-adjusted rate of return on common stocks derived from a DCF analysis includes two components: (1) the anticipated cash dividend yield; and (2) the future growth appreciation of the investment (id.).

The Company used the following equation to model its DCF analysis:

Expected Return on
Common Equity $K = (D1 / Po) + g$

where K is the investor's required cost of capital, D1 is the anticipated dividend, Po is the stock price, and g is the expected growth rate (id. at 36).

As a basis for determining the dividend yield component of the DCF model, Cambridge calculated a median dividend yield for the Barometer Group of 5.76 percent for the six-month period ending with August 1992, based on the then-current stock price (id. at 31). For the purposes of its DCF analysis, the Company then adjusted the dividend yield to take into consideration the expectation by investors that dividends would increase over the coming year (id., App. D).[57] These adjustments resulted in a 5.92 percent dividend yield

[57] The Company examined three separate methods, including: (1) the expectation of a dividend increase during the initial period equal to one-half the growth component; (2) the discrete growth in quarterly dividends; and (3) the compound returns attributed to the quarterly dividend payments (Exh. CEL-2, App. D at 5-6).

component for the Barometer Group (Exh. CEL-2, at 31).

To derive the growth rate for its comparison group, the Company stated that investors consider both historical and prospective growth rates as measured by earnings per share and dividends per share (id. at 34). Based on historical performance, published forecasts, and growth patterns in earnings per share, the Company maintained that a 4.5 percent prospective growth rate is a reasonable expectation for the Barometer Group (id. at 35-36).

Based on this analysis, Cambridge added the dividend yield and dividend growth rate estimates, producing a 10.42 percent rate of return on equity for the Barometer Group of companies (id. at 38). However, the Company considered this rate to understate the required rate of return. Cambridge maintained that when stock prices and book values diverge, the results of a DCF analysis understate the required return (id. at 28). Moreover, the Company contended that there is no basis to assume that investors value utility stocks at book value (id. at 29). Consequently, the Company held that the results of the DCF analysis should not be the sole determinant in establishing its cost of equity (id.).

b. Positions of the Parties

i. Attorney General

The Attorney General criticizes Cambridge's selected dividend yield and growth rate (Attorney General Brief at 96-98). First, the Attorney General argues that by dividing the indicated dividend by the current market price, the resulting dividend yield is highly susceptible to the impact of "one day" events that may affect the market (id. at 96). To adjust for any abnormalities resulting from the use of such spot prices, the Attorney General advocates the use of the average of several months of dividend yield (id. at 96-97). Based on the most recent six-month average dividend yield of 5.71 percent and the most recent twelve-month average dividend yield of 5.74 percent, the Attorney General proposes the use of a dividend yield rate of 5.73 percent (id. at 97).

Second, the Attorney General asserts that there is no factual basis for the Company's proposed growth rate. The Attorney General argues that the Company overstates the problems associated with its DCF calculation, oversimplifying the assumptions behind DCF theory by implying constant growth rates (Attorney General Reply Brief at 47). The Attorney General asserts that the Department has previously found that the appropriate growth rate to employ in a DCF analysis is the retained earnings growth rate, which he contends strikes a balance between the earnings per share growth rate and dividends per share growth rate (Attorney General Brief at 99, citing Western Massachusetts Electric Company, D.P.U. 84-25, at 163 (1984) and Boston Edison Company, D.P.U. 1720, at 102 (1984)). The Attorney General contends that a five-year average retained earnings growth rate of 3.6 percent for the Barometer Group is identical to the forecasted growth in retained earnings, and therefore provides the best proxy for determining the growth component (Attorney General Brief at 99).

Based on his proposed dividend yield rate of 5.73 percent and a growth component of 3.6 percent, the Attorney General recommends the use of 9.43 percent as a reasonable cost of common equity for the Company using a DCF analysis (id. at 100).

ii. Company

Cambridge suggests that the Attorney General fails to understand DCF theory and application (Company Brief at 153-155; Company Reply Brief at 62). The Company criticizes the Attorney General's method of using the average of two averages of dividend yields (the 12-month average dividend yield, and the 6-month average dividend yield) to arrive at the Attorney General's preferred dividend yields of 5.73 percent (Company Brief at 150 n.127). The Company argues that since these two estimates are based on two sets of overlapping averages, some of the data points are given more weight than others in the Attorney General's calculation (id.). According to the Company, the Attorney General's method of using a six-month average is contrary to Department precedent which relies on the use of a 12-month average (id.). The Company contends that the use of a six-month average dividend yield, adjusted to reflect prospective dividend payments, is appropriate in this case because the data used in a twelve-month average would become stale by the date of this Order (id. at 150-151).

Regarding the Attorney General's criticism of the Company's DCF growth rate estimate, Cambridge asserts that it determined the appropriate growth rate for the Barometer Group using five-year historical data and projected growth rates based on publications such as Value Line, the International Brokers Estimate System ("IBES"), and S&P's Earnings Guide (id. at 152). The Company argues that the Attorney General's support for use of the growth rate in retained earnings as the appropriate DCF growth rate proxy is a misinterpretation of Department precedent (id. at 153). Cambridge asserts that it has clearly explained why a retained earnings growth rate is an inappropriate proxy for growth, arguing that DCF theory requires the use of dividend and earnings growth rates (id., citing Exh. CEL-2, App. D at 7-10). More specifically, the Company notes that the Department has found that the growth rate used in a DCF analysis cannot be based only on a reference to price appreciation, but other factors as well (id. at 154-155). Rather than relying on a single growth indicator, Cambridge points out that it has complied with Department policy by using a "blended" growth rate (id. at 155).

c. Analysis and Findings

In the past, the Department has addressed the DCF analysis as a basis for determining an appropriate rate of return on equity. See Bay State Gas Company, D.P.U. 92-111, at 257 (1992); Massachusetts Electric Company, D.P.U. 92-78, at 112 (1992); Western Massachusetts Electric Company, D.P.U. 86-280, at 110-111 (1987).

As indicated supra, the Company-proposed DCF model assumes that the value of an asset is equal to the present value of future expected cash flows discounted at the appropriate risk-adjusted rate of return. Because the dividend yield and growth rate components of this risk-adjusted rate of return are variables that reflect investors' expectations on future performance of stock investments, there will always be potential problems and limitations in estimating the appropriate values of these two variables.

Regarding the dividend yield component of the DCF, the Department has previously rejected those adjustments that tend to overstate the dividend yield component and consequently the DCF-based cost of equity. More specifically, the Department has rejected financial and market adjustments and those adjustments which could double-count the effect of the growth rate factor. See D.P.U. 92-78, at 112; D.P.U. 90-121, at 179; Western

Massachusetts Electric Company, D.P.U. 85-270, at 232-233 (1986). In this instance, Cambridge considered in its dividend yield selection the effects of compounding the dividend to recognize the effect of reinvesting quarterly dividend payments (Exh. CEL-2, App. D at D-6). The Department finds that this double-counts the effect of the growth rate on the DCF model. See Commonwealth Electric Company, D.P.U. 88-135/151, at 125-126 (1989). Accordingly, the Department finds that the Company has overstated the dividend yield component of its DCF analysis.[58]

The Department does not concur with the Attorney General's reliance on the retained earnings growth method as a means to estimate investor-expected growth. The retained earnings growth rate does not necessarily capture the full growth potential of a company. A variety of quantitative factors, including growth in earnings per share and dividends per share, should be taken into consideration as well. D.P.U. 90-121, at 180; D.P.U. 88-135/151, at 125. Accordingly, the Department shall consider the other growth rates derived by the Company in order to establish an appropriate return on equity, infra.

4. Risk Premium Analysis

a. Introduction

The Company's risk premium approach postulates that the cost of equity capital is equal to the interest on long-term corporate debt plus an equity risk premium (Exh. CEL-2,

58 The Department concurs with the Company, however, that the high price/earnings multiples exhibited by the Barometer Group affect the results of the DCF analysis and will consider this in determining the allowed rate of return (Exh. AG-174). Nevertheless, we note that it is not necessary that utility price-book ratios remain at 1:1. Boston Edison Company, D.P.U. 906, at 100 (1982).

App. E at 1). Cambridge stated that the risk premium approach recognizes the required compensation for the more risky common equity over the less risky and more secured investment in debt notes (id.).

The Company used the following equation to model its risk premium analysis is:

Expected Return on Common Equity $K = i + RP$

where K is the investor's required return, i is the prospective return for long-term public utility debt, and RP is the equity risk premium (id. at 40).

The Company noted that in the case of senior capital, such as long-term debt and preferred stock, a company contracts for the use of capital at a stated coupon rate, and provides a specified dividend for preferred stock, with the usual provision for redemption through sinking fund requirements (id.). Cambridge stated that in such cases, the investor-expected cost rate is equal to the realized return over the term of the issue, absent default (id.).

In the case of equity capital, however, the return on equity is not fixed, but varies with investors' perception of the risk associated with the common stock (id.). Moreover, the realized return on equity investment may vary significantly from the expected cost rate because of the uncertainty associated with the earnings on common equity (id.). This uncertainty highlights the added risk on a common equity investment (id.). The risk premium represents the additional compensation required by the investor for the riskier common equity investment (id. at 1-2).

Cambridge relied on corporate bond yields as its starting point in its risk premium analysis, noting that the Department has accepted public utility bonds as the debt instrument for the purpose of the risk premium approach (Exh. CEL-2, at 36). As the interest component of its risk premium approach, the Company proposed an 8.5 percent yield, which the Company stated represents a reasonable estimate of a prospective long-term debt attraction rate for a public utility (id. at 36-37). Cambridge stated that this 8.5 percent yield is based on Moody's Investors Services, Inc. ("Moody's") 12-month historical interest rates (ending January 1992) and Blue Chip Financial Forecast ("Blue Chip") yields on A-rated public utility long-term debt as of March 1, 1992 (id. at 37).

Cambridge observed that although the Federal Reserve began a series of moves toward lower interest rates in mid-1990 and short-term interest rates have been reduced significantly, the steepening of the yield curve shows investors' concerns about inflationary effects on the cost of capital (id.). More specifically, the Company noted that while short-term interest rates have been substantially reduced, long-term interest rates have remained high (Exh. CEL-2, App. E at 5-6). Cambridge attributed this to the investors' view that current Federal Reserve policy is dictated more by political expediency than the market's perception of future inflationary pressures or supply/demand issues (Exh. CEL-2, at 38). The Company noted that once the economy recovers from the recession, interest rates will be under pressure as inflation expectations rise and demand for credit increases (id.).

Regarding the equity risk premium, the Company stated that this premium is determined as the difference between the rate of return on debt capital and the rate of return on common equity (id., App. E at 6). Using a 1928-1991 data series[59] and assuming four alternative holding periods, the Company determined that 4.5 percent represents a reasonable risk premium that reflects the relative riskiness of Cambridge and the Barometer Group compared with the S&P Public Utilities (id. at 39). Accordingly, based on its risk premium approach, the Company's proposed cost of equity is 13.0 percent, which is the sum of the 4.5 percent risk premium plus the 8.5 percent prospective long-term debt attraction rate (id. at 40).

b. Positions of the Parties

i. Attorney General

The Attorney General contends that Cambridge's risk premium analysis is virtually identical to the Company's CAPM analysis, including its reliance on the use of beta and the Ibbotson Report (Attorney General Brief at 107-108). He maintains that, for the same reasons identified in the Attorney General's criticism of the Company's CAPM analysis, infra, the Department should reject Cambridge's risk premium analysis (id. at 108). The Attorney General notes that the Department has recently rejected all of the components used in this particular methodology of risk premium analysis (Attorney General Reply Brief at 46, citing Berkshire Gas Company, D.P.U. 92-210, at 138-139 (1993); Bay State Gas Company, D.P.U. 92-111, at 265-266 (1992); Berkshire Gas Company, D.P.U. 90-121, at 171 (1990); Boston Gas Company, D.P.U. 88-67, Phase I, at 182-184 (1988)).

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59 This series is based on Ibbotson & Associates' Standard and Poor's Security Price Index Record (Exh. CEL-2, Sch. 12, at 1).

ii. Company

Based on the risk premium approach, the Company asserts that its appropriate rate of return on common equity must exceed the Company's debt rate by a significant margin to attract and hold equity investors (Company Brief at 144-145). Cambridge contends that its risk premium analysis both comports with Department precedent and results in a conservative recommendation (id. at 147).

The Company argues that the Attorney General's criticisms of its risk premium model indicate that the Attorney General does not fully understand the analysis (id. at 148; Company Reply Brief at 61). Cambridge argues that beta values are one of the eight separate risk indicators (id.). The Company also contests the Attorney General's characterization of its risk premium model as virtually identical to the CAPM analysis, arguing that there is little similarity between CAPM and risk premium (id. at 149). Cambridge contends that in many ways, a risk premium analysis is superior to CAPM, since it is a more comprehensive approach. The Company also argues that risk premium analysis includes a variety of historical periods of varying lengths, and not only the 64-year period reported in Ibbotson (id.).

Cambridge adds that the Department in the past has accepted the use of the risk premium analysis consistent with the method applied in this case (id., citing Commonwealth Electric Company, D.P.U. 88-135/151, at 124 (1989)). The Company concludes that its risk premium method should be accepted by the Department for purposes of this proceeding (Company Brief at 149).

c. Analysis and Findings

The Company's risk premium approach, which defines the cost of equity capital to be equal to the interest on long-term corporate debt plus an equity risk premium, has been presented to the Department in previous rate cases and rejected. The Department has found that the risk premium approach overstates the amount of company-specific risk and therefore overstates the cost of equity. D.P.U. 90-121, at 171; Boston Gas Company, D.P.U. 88-67, Phase I, at 182-184.

In addition, the Department has rejected specific aspects of the risk premium analysis, including the use of an average of more than 60 years of annual data because the average showed a large statistical variance making the result of the analysis of little practical value. D.P.U. 92-111, at 265-266; D.P.U. 90-121, at 172; New England Telephone and Telegraph Company, D.P.U. 86-33-G at 364. Because the Company's risk premium analysis presented in this case suffers from the same limitations previously noted by the Department, we give limited weight to this approach as a basis for determining the Company's cost of equity in this case.

5. CAPM Analysis

a. Introduction

The Company stated that it used the CAPM as a supplement to the DCF and risk premium methods (Exh. CEL-2, at 40). Cambridge noted that CAPM is a variation of the risk premium approach (id.). The CAPM postulates that the cost of equity for a particular stock is equal to the rate of return of a risk-free investment plus a risk premium which recognizes the risk of the stock relative to the overall risk of the market (id. at 41; id., App. F at 2). To compute the cost of equity using the CAPM, three components are necessary: (1) the risk-free rate of return; (2) the beta, which measures the systematic risk or level of risk which could not be diversified in a portfolio of assets; and (3) the market risk premium (id.).

The Company used the following equation to model its CAPM analysis:

Expected Return on
Common Equity $K = Rf + b(Rm-Rf)$

where K is the investor's required return, Rf is the return on risk-free investments, b is the beta for the security being analyzed, and Rm is the return in the market (Exh. CEL-2, at 43).

Cambridge used the yield on 30-year Treasury bonds for the twelve months ending August 1992 as well as forecasted data to measure the risk-free rate of return (id. at 41; id., App. F at 2-6). The Company stated that, based on historical and forecast data, the most representative risk-free rate for use in the CAPM was 7.5 percent (id.).

To derive the beta for the Barometer Group, the Company relied on data from Value Line Investment Survey and the Merrill Lynch Security Risk Evaluation, and determined that the median beta for the Barometer Group was 0.56 (id. at 41). According to the Company, utility company betas typically account for a small proportion of the total investment risk because of the relatively low coefficient of determination indicated by the beta estimates (id., App. F at 3).

Cambridge defined the market risk premium as the rate of return on the total market less the risk-free rate of return (id. at 5). In determining the market risk premium, the

Company used two sets of data: (1) the Value Line forecast of capital appreciation and dividend yield on 1,700 stocks; and (2) the total returns from common stocks and long-term government bonds published by Ibbotson Associates in Stocks, Bonds, Bills and Inflation – 1992 Yearbook ("SBBI") (Exh. CEL-2, at 42). The Company used the average of these two market risk premiums, or 8.86 percent, as its proposed market risk premium for its CAPM analysis (id.). The Company noted that the sum of its 8.86 percent market premium and 7.5 percent risk-free rate of return was 16.36 percent, representing a total market return that was consistent with S&P's five-year average return of 15.36 percent and Value Line's five-year forecast of 17.92 percent, thus demonstrating the reasonableness of the CAPM results (id.).

Using the risk-free rate of 7.5 percent, a beta of 0.56, and a market risk premium of 8.86 percent, Cambridge concluded that the appropriate return on equity under the CAPM approach was 12.46 percent (id., at 42-43).

b. Positions of the Parties

i. Attorney General

The Attorney General observes that the Department has previously rejected the CAPM analysis used in this proceeding, and thus no weight should be given to that analysis (Attorney General Reply Brief at 48, citing Berkshire Gas Company, D.P.U. 92-210, at 148-150, 155 (1993); Bay State Gas Company, D.P.U. 92-111, at 274-276, 280-281 (1992)). Specifically, the Attorney General contends that the Company's CAPM analysis should be rejected because of its reliance on unrealistic assumptions and its poor application in the instant case (Attorney General Brief at 102-107). The Attorney General observes that the Department has considered the following underlying assumptions in CAPM analyses: (1) investors can borrow and lend unlimited funds at risk-free rates; (2) alternative equity/securities portfolios can be mathematically evaluated; (3) there are no income taxes on dividends; and (4) a 100 percent liquidating dividend is paid at the end of the investment period (id. at 103). The Attorney General argues that while certain of these assumptions are highly desirable, none hold true in the real world, and Cambridge failed to address any of these problems (id. at 102-104, citing Commonwealth Electric Company, D.P.U. 956, at 54-55 (1982)).

Further, the Attorney General argues that the Company's application of CAPM in this case is fundamentally flawed. First, the Attorney General contends that Cambridge's reliance on the Ibbotson Study has never been found by the Department to reflect current investor expectations (Attorney General Brief at 104-105). The Attorney General further rejects the use of Value Line's four-year expectation of market appreciation, as a poor indicator to use during a general market recession (id. at 105).

Second, the Attorney General argues that the betas selected for use by Cambridge are not the only ones available to investors. He contends that the range of betas available for a single company are diverse, and that differing betas produce differing results (id. at 105-106). The Attorney General claims that Cambridge's beta is fundamentally flawed, because the beta selected by the Company only explain 16 percent of the variation in stock prices (id. at 106). The Attorney General argues that because the beta selected by the Company fails to explain 84 percent of the variation in stock price, the beta is rendered useless for evaluating a utility's return on equity (id., citing Colonial Gas Company, D.P.U. 84-94, at 63-64 (1984) and Berkshire Gas Company, D.P.U. 1490, at 74-75 (1983)).

Third, the Attorney General contends that Cambridge's reliance on long-term Treasury bonds as a proxy for the risk-free rate overstates the actual risk-free rate, because long-term Treasury bonds incorporate a measure of maturity risk (id. at 106-107). The Attorney General maintains that the correct proxy to use for the risk-free rate is U.S. Treasury bills, which do not have the maturity risk of Treasury bonds (id. at 107).

ii. Company

The Company asserts that the results of its CAPM analysis provide a valuable means to supplement the Company's two primary methods for determining the cost of equity (Company Brief at 156; Company Reply Brief at 63). Regarding the Attorney General's criticisms of the underlying assumptions of the CAPM, the Company asserts that although most analytical methods, including the Attorney General's preferred DCF, do not account for all variables, it recognized the restrictive assumptions of the CAPM, and emphasized the need to use this method in conjunction with the other methods presented for determining the cost of equity (Company Brief at 156 n.133).

Regarding the Attorney General's suggestion that the CAPM risk-free rate should be based on U.S. Treasury bills rather than the 30-year Treasury bonds, the Company asserts that short-term Treasury bills are inadequate and that the long-term cost of capital is the most appropriate cost of capital to use in rate setting (id. at 157 n.134).

The Company defends its selection of betas used in its CAPM, noting that the betas used were an average of beta values obtained from two widely used sources, Value Line and Merrill Lynch, the latter of which relies on S&P's index (id. at 157-158). Furthermore, Cambridge argues that the low coefficients found for its betas do not make the data suspect Rather, the Company contends that low coefficients demonstrate that the Company's investment risk is not primarily attributable to market factors, but to other factors unique to a particular industry or company (id. at 157 n.135).

Cambridge argues that the Attorney General's criticisms of the Ibbotson Associates study is inconsistent with the faults he finds in the four-year projections used by Value Line (id. at 158 n.137). The Company suggests that no time period could be found that would suit the Attorney General (id.). In response to the Attorney General's criticism of using Ibbotson data, the Company asserts that it is not the specific events or returns which are important, but rather the differential between stock returns and U.S. Treasury bond returns, which makes the analysis valuable (id.).

c. Analysis and Findings

The Department in the past has rejected the use of the CAPM as a basis for determining a utility's cost of equity. Massachusetts Electric Company, D.P.U. 92-78, at 113 (1992); Boston Gas Company, D.P.U. 88-67, Phase I, at 184 (1988); D.P.U. 84-94, at 63-64. Based on the record in this case, the Department concludes that the CAPM analysis presented is not an appropriate and reliable basis for determining Cambridge's cost of equity.

The record in the instant case indicates that the Company's CAPM is intended to be used as a supplemental basis for determining the Company's proposed cost of equity. The Department agrees with the Attorney General that the CAPM has a number of strong assumptions which affect the resulting estimate of the cost of equity. The implications of these assumptions have not been clarified during the proceeding.

In making this conclusion, the Department notes a number of limitations in the Company's application of the CAPM. First, the Department is not persuaded by the definition and data used to estimate the risk-free rate. The Department agrees with the Attorney General that long-term government bonds are not necessarily risk free. Thus, the Company's measure of the risk-free rate could overstate the cost of equity based on the CAPM. Second, because the coefficients of determination of the betas are relatively low, we cannot place much weight on the statistical reliability of the results of the cost of equity calculations. Accordingly, the Department gives no weight to the Company's CAPM analysis in this case.

6. Comparable Earnings

a. Introduction

The Company presented the comparable earnings approach as an additional method to supplement its DCF and risk premium analyses. The comparable earnings approach uses a set of parameters which represent similar risk characteristics of a utility and a group of companies with comparable risk that are not public utilities (Exh. CEL-2, at 43).

To implement the comparable earnings approach, the Company used both actual returns and forecast returns for non-utility companies as a measure of a fair rate of return on common equity (id. at 44). The Company used the Value Screen Data Base which includes approximately 1,700 companies (id.). In order to establish the comparability of the non-regulated companies with Cambridge, the Company used three criteria covered in the Value Screen Data Base: (1) a range of Value Line betas from 0.50 to 0.70; (2) safety ranks of 1, 2 and 3; and (3) financial strength ratings between B+ and A (Exh. CEL-2, App. G at 3). By applying these selection criteria, the Company identified a group of 14 companies to be used for the comparable earnings approach (id.).

Cambridge stated that the results of this approach indicate that the historical return on book common equity was 10.7 percent for the five years ending 1991, and that the forecast rate of return on book common equity is 16.6 percent (Exh. CEL-2, at 44). The Company stated that the average of the historical and forecast rates of return on common equity is 13.65 percent, which represents the comparable earnings result in this case (id. at 44-45).

b. Positions of the Parties

i. Attorney General

The Attorney General urges the Department to reject Cambridge's comparable earnings analysis, arguing that this approach has been repeatedly rejected by the Department as being unreliable (Attorney General Brief at 108, citing Bay State Gas Company, D.P.U. 92-111, at 280-281 (1992); Berkshire Gas Company, D.P.U. 905, at 48-49 (1982)). The Attorney General asserts that because the Company has provided no reasons for the Department to change its precedent, the Company's proposed comparable earnings approach presented in this case should be rejected (id. at 109).

Furthermore, the Attorney General notes that while three indicators of investment risk were included in the analysis, Cambridge ignored what he considered the three most important indicators: (1) stock price stability; (2) price growth performance; and (3) earnings predictability (id.). The Attorney General argues that stock price and earnings stability are the most important risk indicators a stock investor would consider (id.). The

Attorney General concludes that by not considering stock price or earnings stability, the Company's selection of non-regulated comparison companies is questionable at best (id.).

ii. Company

In response to the Attorney General's assertion that the comparable earnings approach has been previously rejected by the Department, the Company contends that the Department's objections to the comparable earnings approach were based on the use of regulated firms in the comparison group (Company Brief at 159-160). In the instant case, however, the Company notes that its group of comparable companies is composed of non-regulated, industrial firms (id.). Furthermore, Cambridge contends that the Attorney General's three measures of investment risk have not been shown as paramount to the measures selected by the Company (id. at 160). Moreover, the Company argues that its selected criteria incorporate the measures proposed by the Attorney General – beta measures stock price stability, safety measures total comprehensive risk of a stock, and financial strength addresses a series of variables (id.). Cambridge contends that the results of its comparable earnings analysis provides a valuable benchmark to assess the results obtained by the two primary methods used to determine its required return on equity, the DCF and risk premium analyses (Company Reply Brief at 63).

c. Analysis and Findings

While the comparable group of companies used in the comparable earnings approach are non-regulated firms, the Company has not demonstrated that the 14 companies included in the comparable group have risk comparable to that of Cambridge. In order to meet the comparability criteria spelled out by the Court in Bluefield Water Works and Improvement

Company v. Public Service Commission of West Virginia, 262 U.S. 679 (1923) and Federal Power Commission v. Hope Natural Gas Company, 320 U.S. 591 (1942), other investment risk criteria must be carefully evaluated as bases for selecting a comparable group of companies. The Department notes the companies used in the comparable earnings analysis include representatives of such industries as goldmining, machine products, petroleum, food processing, and home furnishings (Exh. CEL-2, Sch. 14, at 1). While these companies may fall within the three investment risk criteria used in the analysis, the Attorney General has correctly indicated that the Company did not consider other relevant investment risk indicators. Furthermore, the Department notes that the investment risk criteria selected by Cambridge may not represent the most valid criteria. For example, we note that the use of beta as a criterion in selecting the comparable group of companies is not a reliable investment risk indicator given its statistical measurement limitations noted supra. Accordingly, the Department rejects the Company's comparable earnings approach as a basis for determining the Company's cost of equity in this case.

7. Conclusion

The allowed return on common equity should preserve the Company's financial integrity, allow it to attract capital on reasonable terms, and be comparable to earnings on investments of comparable risk. Bluefield and Hope, supra.

The record in this proceeding shows that there is a wide range of results produced by the Company and the Attorney General. The record also demonstrates questionable management performance, with particular respect to the Company's conservation and load management activities, requiring that the return on equity should be set at the low end of the range of reasonableness (see Section V, above). Massachusetts Electric Company, D.P.U. 92-78, at 115 (1992).

Based on a review of the evidence presented in this case, the arguments of the parties, and the considerations set forth above, the Department finds that an allowed rate of return on common equity of 11.00 percent is within a reasonable range of rates that satisfies the standards set forth by the Court in Bluefield and Hope, and is appropriate in this case. Additionally, as directed by the Department in Section V.A., above, the Company shall immediately hand deliver a copy of this Order to each member of ComEnergy System's Board of Trustees, so that the Board is made aware of the Department's concern regarding management's poor performance.

VII. RATE STRUCTURE

A. Introduction

Rate structure is the level and pattern of prices that various classes of customers are charged for use of utility service. A class' rate structure is a function of the cost of serving that rate class and the rate design calculated to cover that cost. The Department's goals for utility rate structure are efficiency, simplicity, continuity, fairness, and earnings stability. Massachusetts Electric Company, D.P.U. 92-78, at 116 (1992); Nantucket Electric Company, D.P.U. 91-106/138, at 110-111 (1991); Western Massachusetts Electric Company, D.P.U. 90-300, at 13-15 (1991); Boston Edison Company, D.P.U. 1720, at 112-120 (1984).

There are two steps in developing rate structure: cost allocation and rate design. Cost allocation entails assigning a portion of a utility company's total costs to each rate class. Rate design entails determining a set of prices for each class that will produce revenues equal to the costs allocated to that class. Id.

In order to permit the development of a rate structure that meets the Department's objectives, the allocation process should determine an overall revenue requirement for each class that reflects the costs a company incurs in serving that class. Cost allocation comprises five tasks. The first task is to functionalize costs. In this step, costs are defined as being associated with the production, transmission or distribution function of providing service, as well as with the various voltage levels within each function. The second task is to classify expenses in each functional category according to the forces underlying their causation. Thus, the expenses are classified as demand, energy, or customer-related. The third task is to identify an allocator that is most appropriate for costs in each classification within each function. Id.

The fourth task is to allocate all of the company's costs to each rate class based upon the cost groupings and allocators chosen, and to sum these allocations in order to determine the total cost of serving each rate class. The fifth and final task is to compare the cost of serving each rate class to the revenues produced by that rate class using the rate design in effect during the test year. If the difference between these amounts is small, the total revenue increase or decrease may be allocated among all rate classes to equalize rates of return and to ensure that each class pays for the costs it imposes. If any differences between the allocated costs and test year revenues are significant, the revenue increase or decrease may, for reasons of continuity, be allocated to reduce differences in rates of return without equalizing them in a single step. Id.

B. Cost Allocation

1. Production Capacity Costs

a. The Company's Proposal

Cambridge allocated production capacity related costs using the Modified Peaker - Probability of Dispatch method ("Modified Peaker POD"). This method allocates the capacity costs of each generating unit to each of 576 costing hours (a typical weekday and weekend for each month of the year) in proportion to the probability of such unit being run during that particular hour (Exh. CEL-14, at 11). The modified POD method diverges from the conventional POD method in that the capacity cost of each unit is separated into two components, the "pure capacity" value and the "excess" value. The pure capacity cost of a unit is measured by the levelized carrying cost of the least capital intensive unit that may be used to meet load, generally a gas turbine. The remaining revenue requirement of the unit is designated as the excess cost. Under this method, the part of the unit equivalent to the peaker costs (pure capacity costs) is allocated exclusively to the peak period. The excess costs are those related to energy (capitalized energy) and are allocated using the conventional POD method (i.e. to each hour a unit operates) (id. at 8-13).

Cambridge stated that the Modified Peaker POD method was approved by the Department in the Company's last rate case, Cambridge Electric Light Company, D.P.U. 89-109 (1989). The Company indicated that it refined the methodology approved in D.P.U. 89-109, in response to Department concerns, by indexing the pure peaker costs of each unit to the year that each generating unit went into service, thus accounting for the cost differences between units of different vintage and the peaker plant. According to Cambridge, this indexing procedure led to the development of capacity-cost allocators that reflect the capitalized energy associated with the existing unit at the time that it entered into commercial operation (Exh. CEL-13, at 6). The Company stated that this refinement to the Modified Peaker POD was approved by the Department in Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80 Phase One (1991) ("D.P.U. 90-331") (id.).

The Company stated that the Modified Peaker POD method filed in this case is superior to alternative allocation techniques because it: (1) addresses the timing of loads and cost causation throughout the twelve-month period in a direct and logical manner; (2) treats loads in a probabilistic manner to predict more accurately the range of likely load levels; and (3) avoids unnecessary distortions by normalizing the availability of units over the year (Exh. CEL-14, at 13).

b. Positions of the Parties

i. Energy Consortium

The Energy Consortium urges the Department to reject the Company's Modified Peaker POD allocation method and instead use the Break-Even POD method as approved in Western Massachusetts Electric Company, D.P.U. 91-290 (1992) because such method recognizes both system planning and usage considerations and thus more accurately reflects cost causation than the method used by the Company (Energy Consortium Brief at 11-13). The Energy Consortium sponsored the testimony of Mr. Drazen and Ms. Pearson who raised several general criticisms of the Company's allocation method and concluded that the Break-Even POD is the most appropriate allocation method (Exhs. EC-8, at 12; EC-9, at 28).

The Energy Consortium asserts that the basic problem with the Company's Modified Peaker POD method is that it allocates capacity costs equally to all kilowatthours of usage, independent of load pattern (Exh. EC-9, at 18-19). Therefore, off-peak usage is allocated "virtually the same amount of capacity cost as on-peak usage" (id. at 19). The Energy Consortium contends that this allocation is illogical and inconsistent with both system planning, and marginal cost rate design which encourages off-peak usage (Energy Consortium Brief at 11; Exh. EC-9, at 19).

The Energy Consortium developed a simplified POD model to illustrate how the Company's POD model is insensitive to the timing of usage. Using its model, the Energy Consortium determined the allocation of costs under a "base case" load pattern, and then reran the model ("shift case") by shifting part of the peak period usage to the off-peak period in order to determine the effect on the allocation factors[60] (Exh. EC-8, at 5). Specifically, the Energy Consortium reran the model by shifting 20 percent of a class's load from the peak period to the off-peak period, while assuming that the loads of the remaining three classes remain unchanged. The results of this analysis showed that the 20 percent shift in a class's load from the peak period to the off-peak period led to a very small change in the POD allocation factors, from 20.09 percent to 19.99 percent (id. App. B). This result reaffirmed the Energy Consortium's belief that under the Company's model, off-peak usage is allocated the same amount of capacity cost as on-peak usage (id. at 11). The Energy Consortium contends that the reason for this is that the Company's model allocates base load capacity costs among all hours that the unit operates, rather than allocating these costs to the hours up to the "break-even" point,[61] as is done under the Break-Even POD (Exh. EC-9, at 20; Tr. 14, at 144).

The Energy Consortium asserts that by allocating capacity costs to all hours in which a plant is dispatched, differences in load pattern become irrelevant and as a result, cost responsibility is overstated for classes with greater-than-system average load factor. This in turn makes the allocation process inconsistent with rate design objectives because although customers are encouraged to shift usage to off-peak hours such usage leads to the allocation

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60 The Energy Consortium claims that the mechanics of its model are similar to the Company's model, although the degree of complexity has been reduced for ease of understanding. The model contains only six typical hours (instead of 576), only four generating units (instead of 17), only four rate classes (instead of 16), and the probability distribution of the load in any hour is assumed to be discrete (instead of continuous) (Exh. EC-8, App. B).

61 The Company calculated a break-even point equal to 3,207 hours (Exh. DPU-2).

of additional costs to the off-peak period (Exh. EC-9, at 24-27; Tr. 14, at 34-36).

The Energy Consortium maintains that these problems can be avoided by allocating the excess capacity cost on the basis of usage up to the break-even point. According to the Energy Consortium, the break-even point is the point at which a base load plant becomes more economical than a peaking plant based on total capital and running costs, and that such a point represents "the number of running hours at which the lower running cost (primarily fuel cost) of the base load plant exactly offsets the higher capital cost relative to the peaker" (Exh. EC-9, at 20). The Energy Consortium asserts that usage in hours beyond the break-even point does not affect a utility's decision to incur capacity costs, that is, once the break-even point has been reached, there is no further impact on capital costs. Therefore, usage during the hours beyond the break-even point should not affect the allocation of the capitalized energy costs (id. at 21).

Referring to the Company's testimony during cross examination where Cambridge stated that the Break-Even POD would require the reallocation of more revenue than the Company-filed COSS thereby raising continuity concerns, the Energy Consortium argues that continuity should be considered after the appropriate allocation is selected (Energy Consortium Brief at 9-10). Addressing the second contention raised by the Company, that under the Break-Even POD a class with no on-peak usage is allocated no production capacity responsibility, the Energy Consortium contends that while in theory this argument is correct, there is no basis "in reality for assuming the existence of a rate class that is entirely off peak" (id. at 10).

In its reply brief, the Energy Consortium addresses several of the criticisms raised by the Company and the Attorney General. First, regarding the Company's argument that the Break-Even POD affects all off-peak loads and therefore affects any class with relatively more off-peak load, the Energy Consortium argues that any class with relatively more off-peak load should pay a lesser share of the capital cost but the Company's method fails to achieve this allocation (Energy Consortium Reply Brief at 5). Second, the Energy Consortium contends that contrary to the Company's claims, the simplified POD model does not support the Company's allocation method because the inter-class relationship of capacity cost per KWH depicted by the simplified model shows that the average cost per KWH for the highly peaked class is nearly double that of the hypothetical counterpeaking class, while Cambridge's COSS shows that the average cost per KWH is the same for all classes. Moreover, the Energy Consortium contends that the Company never responded to the Energy Consortium's claim that under Cambridge's Modified Peaker POD the capacity allocator for each class is virtually identical to the energy allocator for each class, which implies that the Company's method does not track costs appropriately (id. 5-6).

Third, the Energy Consortium notes that although the Company presents numerous criticisms of the hypothetical POD model, Cambridge does not address the main argument, that the hours beyond the break-even point are irrelevant to the choice of a base load versus a peaking plant (id. at 6-7).

The Energy Consortium asserts that the Company and the Attorney General mischaracterize the Department's Order in D.P.U. 91-290. The Energy Consortium contends that although the Department stated in that Order that its decision did not necessarily apply to other companies, the decision is not necessarily limited to WMECo (id.

at 7). Further, addressing the Company's argument that the Break-Even POD was justified in the WMECo case because of WMECo's high proportion of capital intensive base load units, the Energy Consortium contends that the record evidence in the instant case shows that Cambridge's base load units represent $127 million of the $177 million, or 72 percent, of the generation revenue requirement (id. at 8).

With respect to the Attorney General's assertion that the Energy Consortium's proposal "assumes away all of the embedded plant" that the COSS is designed to allocate, the Energy Consortium argues that this is a misleading characterization of its proposal because the embedded cost aspect of the study is not changed, rather, the issue is simply how to allocate the capitalized energy portion of that embedded cost (id.).

Finally, turning to the Attorney General's criticism that the Energy Consortium does not know how the Company derived the cost estimates in determining the break-even point, the Energy Consortium argues that these estimates were provided by the Company in response to RR-DPU-3 and that no party objected to the calculation. Therefore, they should be used in calculating the break-even point (id. at 9).

ii. The Attorney General

The Attorney General urges the Department to reject the use of the Break-Even POD and instead allocate the Company's production capacity costs based on the Modified Peaker POD as proposed by the Company (Attorney General Brief at 110-114). The Attorney General contends that when the Department adopted a Break-Even POD method to allocate production capacity costs in D.P.U. 91-290, the Department: (1) did not endorse this method for other companies; and (2) considered the high proportion of capital-intensive base load units in WMECo's system (id. at 110). The Attorney General argues that the Break-Even POD advanced by the Energy Consortium does not reflect actual planning used by Cambridge. He asserts that although the Department's purpose in adopting a Break-Even POD for WMECo was to reflect system planning considerations as well as customer usage factors, the Energy Consortium's proposal is flawed because it does not reflect the actual planning that the Company has used historically in deciding when to add capacity and what type of capacity to add to its system. Instead, according to the Attorney General, the Energy Consortium's proposal "assumes away all of the embedded plant that the cost of service study ("COSS") is designed to allocate" (id. at 111).

The Attorney General maintains that if the Department decides to adopt a Break-Even methodology to allocate the Company's historical embedded plant, then the proper method is "not to base the calculation on future-oriented generic estimates of possible future additions costs." Specifically, the Attorney General takes issue with the choice of the two units - a new 87 MW combustion turbine peaking plant and a new generic 270 MW combined cycle base load plant - used by the Company in determining the break-even point. The Attorney General claims that in providing the data for these units, the Company stated that the choice of these units was not based on any Company analysis of system needs (Attorney General Brief at 112, citing Exh. AG-183).

The Attorney General further argues that if the Department adopts the Break-Even POD, consistency would require other ratemaking changes. He claims that utilities would not be allowed to recover any new costs of new non-peaking units which exceeded the estimate of the capital cost of a combined cycle unit. In terms of rate design, the Attorney

General asserts that logic would dictate that "tail block charges would be set assuming that peakers are on the margin for 3,207 hours" (Attorney General Reply Brief at 51-52). The Attorney General concludes that the fact that such major changes would be required for internal consistency if the Break-Even POD was adopted is further evidence that the Energy Consortium's proposal must not be adopted for the Company (id.).

The Attorney General also criticizes the testimony of the Energy Consortium's witness. The Attorney General claims that the witness' analysis is not based on the Company's actual historical costs, and that the witness admitted not only that he knew little about how Cambridge plans its system, but also that WMECo was the only Massachusetts company he had compared to Cambridge (Attorney General Brief at 112). Furthermore, the Attorney General contends that the witness' proposed allocation method implicitly assumes that, in its generation planning, Cambridge is driven totally by the need for peak capacity. However, in adopting the Modified Peaker POD in previous cases, the Department found that capitalized energy is an important factor in system planning (id.). The Attorney General contends that although the witness conceded that the calculation of the break-even point could vary depending on the type of fuel, the witness did not know the type of fuel the Company would use to run the units in question.

Finally, according to the Attorney General, the witness assumed that the Company would be planning to install a gas unit, but admitted that he did not know whether or not the Company "included any gas transportation costs, what plant costs were needed to deliver a reliable gas supply, and what environmental compliance costs would be needed if oil was burned" (id. at 113).

iii. Company

The Company asserts that its proposed Modified Peaker POD reflects cost causation principles, results in a reasonable allocation of costs and is consistent with Department precedent (Company Brief at 165-166).

The Company argues that the Energy Consortium has failed to demonstrate that the Break-Even POD is more appropriate for use in the COSS than the Company's approach. Cambridge criticizes the Break-Even POD, claiming that the principal flaw of this model is its failure to assign any costs to the off-peak periods despite the fact that some generating plants must be used during off-peak periods to serve customer loads (Company Brief at 168; RR-DPU-12). Cambridge asserts that when the Energy Consortium's witness was confronted with a hypothetical example showing that the Break-Even POD could result in over-allocation of costs to certain customer classes, the witness "admitted the existence of flaws in the break-even POD" (id.).

Responding to the Energy Consortium's claim that the existence of a class with wholly off-peak load is extremely rare, the Company contends that the Energy Consortium's argument should be rejected because it does not address Cambridge's concern with the Break-Even POD, namely that the model affects all off-peak loads and consequently affects any class with relatively more off-peak load (Company Brief at 168).

The Company asserts that it has evaluated alternative allocation approaches and determined that the continued application of the Modified Peaker POD was consistent with the principle of continuity and with Department precedent. Cambridge maintains that while both methods (Break-Even POD and Modified Peaker POD) reflect cost causation, the

Modified Peaker POD is less disruptive in terms of changes in the COSS. Therefore, the Company asserts that, contrary to the Energy Consortium's arguments, continuity was merely a factor considered in the evaluation and comparison of the two methodologies and not the reason to reject the Break-Even POD (id.).

Turning to the Energy Consortium's simplified POD model, the Company asserts that this model also confirms the reasonableness of the Modified Peaker POD because it demonstrates that there is a high degree of cost differentiation between peak hours and off-peak hours[62] (id. at 169). Regarding the Energy Consortium's attempt to demonstrate via the use of the hypothetical model that the Modified Peaker POD is not sensitive to load shifting by customers to off-peak hours, the Company contends that the model fails to support the Energy Consortium's assertion because the "shift case" contains "gross flaws and results in a comparison of highly disparate scenarios" (id.). According to the Company, the first flaw relates to the unsupported assumption that off-peak average costs are higher than those of the intermediate load periods. Second, the Company claims that the Energy Consortium did not alter the probability parameters of the load shapes even after significant shifting of load. Third, Cambridge maintains that the shift case represents a system with significant excess capacity while the base case maintained an optimal level of generation plant (id. at 170).

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62 The Company claims that the application of the Energy Consortium's model shows that the average cost per KWH for the highly peaked class is nearly double that of the hypothetical counter-peaking class, and that the average cost of capacity per KWH for the peak hours is more than ten times the average cost of the off-peak hours (Company Brief at 169).

Finally, the Company disputes the Energy Consortium's assertion that there is no change in the allocators when the hypothetical POD model assumes a shift of 20 percent of a class load from the peak period to the off-peak period. The Company asserts that the relevant class receives nearly a ten percent reduction in cost responsibility (id., citing Exh. CEL-45[63]).

Cambridge also asserts that the Energy Consortium did not demonstrate any comparability between the Company's and WMECo's resource mix which in turn would have warranted a similar treatment of production costs as in D.P.U. 91-290. The Company claims that in that case, the Department was concerned with specific characteristics of WMECo's system and concluded that the Break-Even analysis would not necessarily achieve the most appropriate balance between usage characteristics and design considerations for other companies (Company Brief at 170-171).

In its reply brief, the Company addresses the arguments raised by the Energy Consortium in its reply brief and in particular the argument that Cambridge's Modified Peaker POD does not assign costs in an appropriate manner. Referring to Schedules 7A and 7B of Exhibit CEL-15, the Company notes that these schedules show that its Modified Peaker POD assigns approximately 80 percent of the total capacity cost responsibility to weekdays where peak loads are experienced, and only 20 percent of the capacity costs to the off-peak weekend days (Company Reply Brief at 65-66). The Company further notes that in terms of diurnal cost allocation, a comparison of typical hours for a given month

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63 Exhibit CEL-45 is a simplified model of the Modified Peaker POD. Appendix B of Exhibit EC-9 contains the simplified model of a "conventional" POD.

demonstrates that the off-peak hours are allocated lower costs relative to the peak hours. Cambridge claims that seasonal distinctions can also be discerned from the same schedules which show that capacity responsibility for the peak months is lower than that in the shoulder months (id. at 66).

Referring to Schedule 9 of Exhibit CEL-15 which shows the cost allocation by costing period, Cambridge claims that this schedule also validates its cost allocation model in that this schedule indicates that "peak hours are assigned a higher proportion of costs" (id.). To further demonstrate the validity of the Modified Peaker POD, the Company compared the cost responsibility factors by costing period derived from its model to the actual percentage of KWH sales by costing period. Specifically, Cambridge developed cost/use ratios for each costing period (cost responsibility percentage divided by load percentage)[64] which according to the Company show that under its Modified Peaker POD, more costs per KWH are assigned to the peak period. Therefore, the Company reasons that "the customer who has more load in the off-peak period will pay less" (Company Reply Brief at 67).

Responding to the Energy Consortium's argument that the capacity allocators derived from the modified Peaker POD are virtually identical to the Company's energy allocators, the Company argues that the reason for this is that some classes have a use by costing period pattern that is similar to the total Company use by costing period (id.). The Company asserts that, in the case of the Large General 13.8 KV class the load by period of this class is

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64 The cost/use ratios developed by Cambridge for each costing period were:

Peak Hours 1.37
Low Load A 0.98
Low Load B 0.79

(Company Reply Brief at 67).

nearly identical to the Company's load by period, therefore, the reason that this class is not assigned differing cost responsibilities is because this class is not more off-peak than the Company (id.).

Cambridge also asserts that the Energy Consortium's efforts to compare the Company's base load generating capacity with that of WMECo's are erroneous because in its determination of the 72 percent figure of base load capacity, the Energy Consortium incorrectly includes units that are not base load generators. The Company contends that only 31 percent of the COM/Electric generation capability is base load (Company Reply Brief at 68).

c. Analysis and Findings

The Department has found that a POD method of allocating demand-related production costs is preferable to other methods, and has used a conventional POD method or a Modified POD method to allocate such costs. See Cambridge Electric Light Company, D.P.U. 89-109, at 31 (1989); Commonwealth Electric Company, D.P.U. 88-135/151, at 145 (1989); Boston Edison Company, D.P.U. 85-266-A/85-271-A (1986).

In D.P.U. 91-290, the Department adopted a Break-Even POD allocator stating that such an allocator, was "necessary to achieve a more reasonable balance between usage characteristics and design considerations". Id. at 24. In that case, the Department found that in order to identify properly each class' responsibility for production plant costs, it is appropriate to consider the factors that influence a utility's decision to invest in production plant. Based on this reasoning, the Department concluded that "an appropriate production plant allocator should reflect system planning considerations as well as customer usage factors". Id. The Department reaffirms this finding in this Order.

A fundamental objective of cost allocation is to ensure that cost responsibility is based on cost causation. The Company's Modified Peaker POD allocates production plant costs entirely on usage, that is, the embedded costs of a given unit are allocated to all hours that the unit operates. The Department finds that the allocation of production costs based on usage is appropriate only to the extent that such usage actually causes capacity costs to be incurred. The usage of a plant is not necessarily related to a utility's decision to incur the capital costs of that plant. This is illustrated by the "break-even" concept relied on by the Department in D.P.U. 91-290, and advanced by the Energy Consortium in this case. Once a utility decides to install additional capacity, its objective is to select a resource (e.g. a peaking or a base load plant) that will minimize the sum of the capital costs of meeting the capacity need plus the variable costs of supplying energy (running costs) throughout the year. By dividing the difference in capital costs by the difference in running costs, the utility can arrive at the number of hours of annual usage which supports a decision to build a base load plant. This is the "break-even" point, and represents the point at which a capital-intensive base load plant becomes more economical than a peaking plant. Since the expected duration of usage is sufficient to justify installing the base load plant, it follows that usage, or energy consumption beyond the break-even point, has no additional impact on capital costs. Therefore, one can reasonably conclude that not all usage is relevant to cost-causation, and hence, production plant costs should not be allocated based solely on usage.

The Company in the instant case agreed with this conclusion (Tr. 4, at 97). The Company's witness testified that:

> loads that exist beyond the breakeven point essentially require no additional capital infusion. The capital cost of the base-loaded unit can be deemed to be recovered from all the hours before the breakeven point. That is a way of optimizing a generation system to serve the load under a load curve in the least-cost manner

(id.).

Indeed, in D.P.U. 91-290, by implementing the Break-Even POD method, the Department altered its practice of relying exclusively on usage characteristics to allocate the capacity-related production costs and instead limited the allocation of these costs to "the hours responsible for causing them." Id. at 25.

The Company's criticism that the Break-Even POD allocates no production plant costs to a class which has only off-peak usage is valid in theory, but has no practical implications because Cambridge has no such rate classes in its system. Regarding the Company's concern that the Break-Even POD model affects all off-peak loads and consequently affects any class with relatively more off-peak load, we agree with the Energy Consortium, that since the model allocates costs to the hours responsible for causing such costs, any class with relatively more off-peak load should pay a lesser share of the capital costs.

The Attorney General's criticism that the Break-Even POD does not reflect the actual planning that the Company used historically in deciding when to add capacity and the type of capacity to add to its system is not without merit. Ideally, in allocating the capacity costs of each generating plant, one should ascertain the year each plant was installed and determine the break-even point associated with that unit, and then allocate costs accordingly (Tr. 14, at 153-154). The Break-Even POD method developed on this record does not incorporate a break-even point for each of the Company's generating units, rather, it uses a uniform break-even analysis is to allocate the costs of all units. Nevertheless, such allocation method is superior to the Modified Peaker Method which allocates costs to all hours of usage, and as a result, based on our discussion above, is inconsistent with the principle of cost causation.

We disagree with Attorney General's argument that the adoption of the POD would require other ratemaking changes. The issue here is the appropriate allocation of capacity costs, and the fact that a break-even analysis allows us to assign cost responsibility based on cost incurrence. No other ratemaking change is necessary. Furthermore, the allocation of production plant costs based on the Break-Even POD method is consistent with our marginal cost-based rate design for Cambridge which encourages off-peak usage by applying demand charges only to peak hours.

Accordingly, for the reasons stated above, the Department finds that a POD method reflecting the allocation of capitalized energy costs to the hours up to the break-even point is appropriate because such an adjustment more accurately matches cost responsibility with cost causation. The Department orders the Company to adopt the Break-Even POD method as presented in RR-DPU-12 for the purpose of allocating capacity-related production plant costs.

2. Allocation of Transmission and Bulk Distribution Costs

a. The Company's Proposal

Cambridge allocated demand-related transmission and bulk distribution costs based on allocators derived by the Proportional Responsibility ("PR") method. This methodology assigns a capacity cost factor to each distinct load level in the Company's annual load duration curve. The factor is directly proportional to the ratio of the load level to the annual peak load and inversely proportional to the number of hours for which that load level is sustained. These capacity cost factors were, in turn, aggregated across all load levels for each hour in the test year. The hourly capacity cost factors were allocated to each customer class in proportion to the customer class responsibilities during each of the defined hours (Exh. CEL-14, at 13-15).

The Company stated that transmission plant and bulk distribution plant share with production plant the characteristic of being common or joint facilities used by all customers, and like production plant, they are sized to meet peak customer loads during a relatively small number of hours. Further, these transmission and bulk-distribution facilities are engineered and configured to operate economically at load levels sustained over long hours. Therefore, the Company stated that it is appropriate to allocate the cost of these facilities to costing periods which reflect the time-varying levels of aggregate Company loads (id. at 13).

b. Positions of the Parties

i. Energy Consortium

The Energy Consortium argues that the Company's bulk-distribution plant be allocated based on non-coincident peak demand allocators as accepted by the Department in Massachusetts Electric Company, D.P.U. 92-78 (1992) (Energy Consortium Brief at 13-14).

The Energy Consortium asserts that since the Company classified plant costs in accounts 360-362 as distribution-related it "should not now be allowed to reclassify a portion of it as transmission-related" (Energy Consortium Reply Brief at 10). According to the Energy Consortium, all plant in accounts 360-362 must be recognized as distribution related and thus in accordance with Department precedent be allocated on an NCP basis and not on a PR basis (id.).

The Energy Consortium further asserts that the Company's claim that the 13.8 KV system allows for the shifting of bulk power throughout the service territory is directly contrary to the testimony of the Company in Cambridge Electric Light Company, EFCS No. 83-4A, 15 DOMSC 187, where it stated that the Company's system is divided into two "islands" (Energy Consortium Reply Brief at 10).

ii. Attorney General

The Attorney General agrees with the Company, that given the realities of Cambridge's distribution system, "the PR allocator is the more appropriate allocator for [Cambridge's] transmission plant" (Attorney General Reply Brief at 52).

iii. The Company

The Company claims that its proposed allocation method was approved by the Department in Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80 Phase One (1991) ("D.P.U. 90-331"), Commonwealth Electric Company, D.P.U. 88-135/151 (1991), and Cambridge Electric Light Company, D.P.U. 89-109 (1989) (Company Brief at 171).

Cambridge argues that the Energy Consortium's proposal ignores the realities of the Company's distribution system. The Company asserts that although its 13.8 KV system is classified as distribution plant for accounting purposes, given the density of population, its bulk facilities (13.8 KV) are relied upon by all customers and serve the same purpose as transmission facilities in other service areas (id. at 172). Therefore, Cambridge reasons that unlike Massachusetts Electric's bulk distribution facilities which serve large, rural areas over a highly spread service area, the Company's bulk distribution plant should be allocated on the basis of a PR allocator (id.).

In its reply brief, the Company asserts that the Energy Consortium's citation to the Energy Facilities Siting Council decision is misplaced. Referring to the Energy Consortium's claim that the Company's service territory is segregated into two areas, Cambridge contends that the Energy Consortium has presented no evidence that this circumstance continues subsequent to the construction of a 115 KV line from the northern portion of Cambridge to a new substation in south Cambridge (Company Reply Brief at 69).

c. Analysis and Findings

The Company's allocation of its bulk distribution substation costs based on the PR method was approved by the Department in Cambridge Electric Light Company, D.P.U. 87-221-A at 32 (1988); and Cambridge Electric Light Company, D.P.U. 84-165-A at 33 (1985). The reason for the use of a PR allocator in these cases was that these facilities were designed to meet peak loads during a relatively small number of hours as well as demand sustained over long durations. See D.P.U. 87-221-A at 25. This same reason, offered by the Company in the instant case, is not refuted by the Energy Consortium (Exh. EC-14, at 13; RR-EC-4).

Furthermore, the Energy Consortium's claim for an allocation similar to MECo's is not supported by the record which indicates that the Company's 13.8 KV substations are shared by all of its customers, and not just a specified group for purposes of receiving power, and that Cambridge's integrated transmission system includes these facilities (Tr. 9, at 10, 11, 15). In this way, the Company's bulk distribution facilities serve the same purpose as transmission facilities do in the service areas of other utilities. Moreover, since the costs associated with these facilities are incurred to serve all customers and not just specific local areas, it follows that such costs warrant an allocation treatment similar to transmission plant.

The Energy Consortium has provided no evidence in this case to convince the Department to alter the allocation methodology for the Company's investment in bulk distribution substation plant. Accordingly, the Department finds that the Company's allocation of demand-related transmission and bulk distribution costs is reasonable.

3. Allocation of Other Distribution Plant Accounts

The Company stated that distribution costs other than bulk substations are not incurred for the common benefit of all customers, but are dedicated to specific groups of customers and are not related to Company-wide load levels (Exh. CEL-14, at 15). Accordingly, the Company allocated these costs by means of the non-coincident peak method, that is, based on each customer class' maximum load, without regard to the contribution to coincident Company loads (id.).

None of the parties commented on the Company's methodology. The Department finds that the Company's allocation of these distribution costs is reasonable and consistent with Department precedent.

4. Allocation of Customer Costs

The Company allocated customer-related distribution services costs to each customer class proportionately, based on the actual number of service connections in each class weighted by the cost of the distribution services (Exh. CEL-14, at 15). Metering costs were directly assigned to customer classes based on the number of meters in each class weighted by the cost of the meter. Meter reading expenses were assigned to customer classes based on the number of meters in each class weighted by the time spent travelling and reading meters for each customer class. Customer accounts expenses were directly assigned to customer classes based on the number of customers in each class weighted by the relative cost of billing customers in each class. Customer service and information expenses were directly assigned to customer classes based on an analysis of the labor resources expended in these areas (id. at 15-16).

None of the parties commented on the Company's methodology. The Department finds that the Company's allocation of customer- related costs is reasonable and consistent with Department precedent.

5. Administrative and General Expenses

a. The Company's Proposal

The Company proposed a refinement to the current Department precedent of allocating the majority of Administrative and General ("A&G") expenses on the basis of a revenue requirements allocator. Cambridge proposed that A&G expenses be allocated on the basis of a revenue requirements allocator net of cost of power expenses. The Company stated that this treatment is similar to the Department's findings in Massachusetts Electric Company, D.P.U. 92-78, at 159 (1992) (Exh. CEL-13, at 7-9).

According to Cambridge, its power acquisition situation is similar to an "all requirements" utility such as Massachusetts Electric Company ("MECo") in that the Company purchases 94.9 percent of its electric power requirements, and that its A&G expense for the procurement and administration of power, including integrated planning expenses is only two percent of its total A&G expenses. Further, as in the case of MECo, the Company is billed for A&G expenses associated with the procurement of power as part of the purchased power rates of its suppliers (id. at 7-8; Exh. AG-136).

b. Positions of the Parties

i. Attorney General

The Attorney General opposes the Company's proposal and urges the Department to direct the Company to allocate A&G expenses based on a total revenue requirements allocator (Attorney General Brief at 114-115).

The Attorney General takes issue with the Company's claim that only two percent of its A&G expenses relate to power procurement and administration costs, arguing that Cambridge's method of calculating the two percent figure is not reliable. In particular, the Attorney General asserts that in arriving at this figure, the Company did not account for any of the expenses included in Accounts 924-926, 928, 930, and 932. According to the Attorney General, these accounts constitute the majority of the Company's A&G expenses, and include costs such as property and liability insurance, pensions, regulatory commission fees and miscellaneous general expenses. Further, the Attorney General contends that the Company did not treat any of its officer salaries as power-related, "even though the officers plainly must supervise the operations of Company units" (id. at 114). Therefore, the Attorney General concludes that the two percent figure is too low an estimate of the portion of A&G expenses that is power-related (id. at 115).

Citing Cambridge Electric Light Company, D.P.U. 84-165-A at 99-107 (1985), the Attorney General argues that Cambridge is not an "all-requirements" customer, and that in D.P.U. 84-165-A, the Department rejected a request that Cambridge be treated like an all-requirements customer. The Attorney General maintains that the Company does own some of its power sources, and A&G expenses are incurred relating to those sources (id.).

Finally, the Attorney General asserts that the Company's proposal misses the basic point underlying the Department's adoption of the revenue requirement allocator for A&G expenses, which is that, with the exception of employee benefits in Account 926, A&G expenses are in the nature of general overheads, which cannot be tied in any meaningful sense to a narrow allocator such as plant, energy, labor, or customers. Accordingly, the Attorney General contends that consistent with Department precedent, the Company should allocate A&G expenses based on total revenue requirement (id.).

In his reply brief, the Attorney General asserts that the Company has completely mischaracterized his argument regarding the amount of A&G expenses that could be considered power-related, thereby missing the thrust of the Department's precedent on A&G costs. According to the Attorney General, the issue is not that more A&G expenses should be allocated as power-related, but that the Company's determination of the amount of power-related A&G expenses was misguided (Attorney General Reply Brief at 53).

ii. Company

The Company argues that it has demonstrated in its filing that its proposed treatment of the A&G expenses is appropriate because: (1) it is similar to an all-requirements customer since purchased power is 94.9 percent of its total cost of power; and (2) its A&G expense for the procurement and administration of power is only two percent of its total A&G expenses, yet, its purchased power expenses are 55.3 percent of total revenue requirement (Company Brief at 173-174).

Regarding the Attorney General's argument that the Company excluded certain general expenses such as insurance and officers' salaries from the determination of the two percent threshold, the Company argues that the Attorney General neglects to mention that these expenses would be allocated to many functions. For example, the officers supervise all employees, including the relatively few employees administering the Company's purchased power, therefore, the Company maintains that even if the Attorney General's criticisms were taken into account, they would make an insignificant difference to the allocation of A&G expenses related to the purchased power function (Company Brief at 174).

The Company also criticizes the Attorney General for abandoning his previously held position with respect to the allocation of certain A&G expenses such as salaries and property insurance. Cambridge notes that although in recent rate cases the Attorney General has advocated a "broad" allocator for these expenses, in the instant case, he argues for the more "narrow" allocation to the production function. The Company requests that the Department reject this inconsistent approach to cost allocation (id. at 174).

Addressing the Attorney General's assertion that the Company failed to understand his arguments in his initial brief, the Company contends that Cambridge comprehended the Attorney General's position and then on brief, demonstrated the fallacies of the Attorney General's argument (Company Reply Brief at 69).

iii. Energy Consortium

The Energy Consortium supports the Company's proposed allocation of A&G expenses because, it claims, such allocation is in accordance with precedent established in D.P.U. 92-78 (Energy Consortium Reply Brief at 11).

c. Analysis and Findings

The Department has a well-established precedent regarding the use of a revenue requirements allocator for general overhead A&G expenses. Western Massachusetts Electric Company, D.P.U. 91-290, at 40 (1992); Western Massachusetts Electric Company, D.P.U. 90-300, at 38-39 (1991); Commonwealth Gas Company, D.P.U. 91-60, at 29 (1991).

However, in D.P.U. 92-78, at 158-159, the Department indicated that there is no cost causation for the A&G expenses for MECo resulting from its purchased power expense bill from New England Power Company ("NEPCo"). The Department also stated that the A&G expenses incurred by NEPCo in connection with its generating system and fuel procurement are costs that are exclusively incurred by NEPCo. Accordingly, the Department found that MECO's A&G expenses should be allocated based on a revenue requirements allocator net of purchased power expenses. Id.

The record in this case indicates that the Company's power acquisition situation is more like MECo's than like a utility's which generates most or all of its power requirements Although the Company generates some of its power requirements, and does not purchase all of its power from the same source, its purchased power costs amount to 94.9 percent of the total cost of power (Exh. DPU-20). Furthermore, as is the case with MECo, Cambridge is billed for A&G expenses associated with the procurement of power through the purchased power rates of the Company's suppliers (Exh. CEL-13, at 8).

Regarding the Attorney General's argument that the Company's two percent estimate (A&G expenses associated with the procurement of power as a percent of total A&G expenses) is too low because the Company excluded certain A&G expenses, we agree with the Company that since all of these expenses are spread across many functions and not just the purchased power function, their inclusion would have a minimal impact in the determination of an estimate. The relative contribution of purchased power expenses to total revenues is 55.3 percent (id.). Therefore, even if the Company's two percent figure were to double, it would still be disproportionate to purchase power expenses.

Accordingly, the Department finds that the Company's proposed allocation of A&G expenses is reasonable and is hereby accepted. This finding is only for the purpose of establishing an appropriate allocator for A&G expenses. Our rulings in MECo and in this case on the appropriate allocation of A&G expenses are not based on whether the companies are all-requirements customers.[65]

6. Allocation of Intangible Plant

a. The Company's Proposal

Cambridge allocated the costs in Account 303 -- Intangible Plant -- based on the number of customers. According to the Company, the amount of investment in this account relates entirely to the Company's portion of a customer information system placed in service in August 1990 (Exh. CEL-14, at 4; Exh. DPU-19).

b. Positions of the Parties

i. The Attorney General

The Attorney General asserts that the Company's allocation of intangible plant should

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65 In Cambridge Electric Light Company, D.P.U. 84-165-A at 105 (1985), the Department found that the Company "is not an all-requirements customer of a wholesale supplier".

be rejected as inappropriate and inconsistent with both Department precedent and "prior "ComEnergy" treatment for Account 303--Intangible Plant--computer software costs" (Attorney General Brief at 116).

The Attorney General contends that intangible plant contains costs related to overhead, and therefore it should be allocated on the basis of a revenue requirements allocator rather than the number of customers. The Attorney General requests that the Department find in this case that all computer software costs are in the nature of overheads and, therefore, rather than allocating each software package differently, companies should allocate all of them based on revenue requirement (id.). In the alternative, the Attorney General requests that such costs be allocated on a gross plant allocator consistent with Commonwealth Gas Company, D.P.U. 91-60 (1991) (id.).

ii. The Company

The Company asserts that the only property included in this plant account is related to software employed in a customer information system which is used to store, reconcile, and report customer billing records. Therefore, it is appropriate to allocate these costs based on a customer allocator (Company Brief at 175). The Company further asserts that its allocation of intangible plant is consistent with the treatment of expenses in Account 903 – Customer Records and Collection – which are also allocated on a customer basis. This is because if the customer service software was expensed rather than capitalized, it would have been included in Account 903 and allocated on a customer basis (id.).

iii. Energy Consortium

The Energy Consortium supports the Company's proposed allocation of intangible plant because it claims that such allocation is in accordance with precedence established in D.P.U. 92-78 (Energy Consortium Reply Brief at 11).

c. Analysis and Findings

As indicated in Section VII.A. above, the second step in the cost allocation process involves the task of classifying the functionalized costs as demand- energy- or customer-related based upon the forces underlying the costs' incurrence. The issue here is whether the costs included in Account 303 are general overhead as the Attorney General contends, or whether they can be properly classified into one of the above categories.

The record evidence indicates that the total amount included in Account 303 relates to the Company's investment in a customer information system which serves as a masterfile for customer records (Exh. DPU-19). The Company incurred the costs associated with the customer information system for the sole purpose of collecting and tracking customer-specific information such as billing and usage history, meter characteristics, accounts receivable, and payment history. This software system is used for no other function (id.). Furthermore, we agree with the Company that, had this software system not been capitalized, all of the expenses would have been included in Account 903 and allocated on a customer basis. Therefore, we must conclude that the Company's costs included in Account 303 are customer-related. Accordingly, the Department finds that the Company's allocation of intangible plant is reasonable.[66]

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[66] The Department's finding in this case pertains to Cambridge's investment related to the customer information software system included in Account 303. We make no specific finding as to the nature of all computer software costs. The classification and subsequent allocation of these costs should be established on a case-by-case basis

7. Class Revenue Requirements

With the allocation process completed, the difference in rates of return ("ROR") for each class must be determined by comparing the total class revenue requirement computed in this case with the total revenues from each class in the test year. The Company proposes to equalize rates of return for all classes in this proceeding with the exception of the Outdoor Lighting class and the Small General Service class (Exhs. CEL-19, at 4-5; DPU-22). The results of the Company's COSS indicated a 44 percent revenue deficiency for the Outdoor Lighting class, therefore, for continuity concerns, Cambridge proposed to cap the increase for this class to 25 percent and to allocate the remaining revenue deficiency to all other rate classes based on rate base (Exh. CEL-19, at 5).

With respect to the Small General Service class[67] the Company's COSS indicated a revenue deficiency of 48 percent for the G-0 subclass. Accordingly, for continuity reasons, the Company proposed to limit the increase for this subclass (G-0) to one and one half times the average increase to the combined Small General Service class or about 15 percent. The Company allocated the remaining revenue deficiency to the G-1 subclass only (Exh. DPU-22). None of the parties commented on the Company's proposed methodology.

The Department's policy is to allocate system costs on the basis of equalized ROR. See Cambridge Electric Light Company, D.P.U. 89-109, at 40 (1989); Nantucket Electric

based on the relevant record evidence in each case.

[67] This class is made up of two subclasses: (a) Small General G-0, with a demand of less than or equal to 10 KW; and (b) Small General G-1, with a demand of greater than 10 KW.

Company, D.P.U. 88-161/168, at 186 (1989); Western Massachusetts Electric Company, D.P.U. 86-280-A at 151 (1987). We have reviewed the changes in total revenue requirements by rate class and the annual bill impacts by consumption level within rate classes. Based on this review, and in light of the Department's adjustments to the Company's requested revenue requirement, we find that equalizing ROR in this case would not violate our continuity standard for any rate class. The calculation of the resulting class revenue requirements is shown on Schedule 10.

C. Rate Design

1. Rate Design Goals

In order to promote the Department's goals for rate structure, rate design must satisfy two objectives. First, it should produce a set of rates for each rate class, which generate revenues covering the cost of serving that class. Second, rate design should be based on a marginal cost analysis. Economic theory indicates that marginal cost-based prices tend to lead to an efficient allocation of scarce societal resources.

There are four tasks involved in setting rates based on marginal costs. First, a marginal cost study that accurately determines a company's marginal costs must be performed. Second, marginal costs must be converted into rates for each rate class. Third, the rates set at marginal cost should be reconciled with the class revenue requirement by adjusting the most inelastic portion of the rate. Fourth, the resulting rate structure must be compared with existing rates. If marginal cost-based rates are found to represent a change that violates the goal of rate continuity for customers within each rate class, then the existing rates must be adjusted to move the rates in a manner that does not violate the goal of continuity. The Department will evaluate the Company's proposed rate design in light of these four tasks.

2. Marginal Cost Study

The Company developed estimates of its marginal capacity costs and marginal energy costs, in order to form the basis for a marginal cost-based rate design (Exh. CEL-19, at 5).

a. Selection of Time Periods

The first step in calculating marginal costs is the selection of the appropriate seasonal and daily time periods, or costing periods. The second step is to consolidate hours with similar load and cost characteristics into the daily and seasonal rating periods that are appropriate for setting rates. It is possible to use hourly costing and rating periods that produce a distinct price for each hour in the year. However, it is more practical to group hours with similar cost characteristics so that rates can be designed to meet goals of simplicity and efficiency.

The Company provided two seasonal rating analyses (Exh. CEL-24). First, Cambridge compared the ratio of annual summer peaks to annual winter peaks over the past ten years and over five forecasted years. This comparison indicated that, although the Company expects annual peaks to occur in the winter season for the forecasted periods, there is no significant difference between the likelihood of annual peak occurrence during the winter or the summer season using the entire fifteen-year period (id. at B-2).

The Company employed an F-statistic method, whereby the ratio of the between-period variance of means and the within-period variance of means is maximized (id.). When maximized, the ratio indicates the monthly grouping that yields the largest difference in means between periods, while maintaining the smallest variance between months within the grouping (id.). The Company contends that this analysis also indicates that there is no statistically significant difference between summer and winter load levels, and therefore seasonal price differentials are not warranted (id.).

Cambridge's rating period analysis was conducted on the basis of a two-variable F-statistic where the variables included marginal energy costs and hourly load levels (id.). The Company undertook an additional analysis to determine the probability of dispatch for a peaking unit (id. at B-2-B-3). The results of the probability of dispatch analysis indicate that the present summer peak hours, 9 a.m. to 8 p.m., are two hours longer than Cambridge's present summer peak rating period (id. at B-3). The Company indicates that the summer period used in this analysis experienced relatively warmer weather than compared to normal. Consequently, loads and probabilities reflect a flatter pattern than normal (id.). According to the Company, the recognition of the shorter peak periods will better afford customers the opportunity to shift usage to the lower cost shoulder hours, while providing sharper price signals for the high cost peak periods (id. at B-2). Because of this deviation from the normal pattern, Cambridge proposes to retain the existing summer peak definition of 9 a.m. to 6 p.m (id.).

The Company's probability of dispatch analysis indicates that the winter peak hours are 5 p.m. to 6 p.m. However, the Company contends that this period is also too short to be practical for ratemaking purposes, and therefore, proposes to retain the present winter peak period definition of 4 p.m. to 9 p.m. The Company also proposes the same shoulder periods as those presently in effect: from 7 a.m. to 4 p.m., and from 9 p.m. to 10 p.m. for the winter season; and from 7 a.m. to 9 a.m., and from 6 p.m. to 10 p.m. for the summer season (id. at B-3). The Intervenors did not address the Company's rating period analysis.

Although the daily period analysis using the Company's probability of dispatch method indicates that the summer peak hours should be 9 a.m. to 8 p.m., the Department agrees with the Company that shorter peak periods allow the customer more easily to shift usage to the lower cost periods. Additionally, although the results of the Company's analysis indicate that the winter peak hours should be 5 p.m. to 6 p.m., the Department also agrees with the Company that this period is too short to be practical for ratemaking purposes. Accordingly, the Department accepts the Company's proposal to retain the existing winter peak definition of 4 p.m. to 9 p.m. in this case. Finally, the Department also accepts the Company's proposal for its shoulder periods in this case.

b. Capacity-Related Marginal Production Costs

i. The Company's Proposal

The Company used the modified peaker method to calculate its marginal production capacity costs (Exh. CEL-21, at 3). The Company's proposed resource portfolio and resource plan indicate that it will have a capacity deficiency in the summer of 2004 (Exh. CEL-28, at 5).[68] The Company derived its marginal production capacity cost by escalating 1992 plant investment costs to the in-service year of 2004, using escalators obtained from a publication by DRI/McGraw-Hill, entitled Cost and Price Review, Utility Focus, Second Quarter 1992 ("DRI"). The cost of an 87 MW peaker was then escalated to

[68] Since Cambridge is part of the integrated ComEnergy System, Cambridge performed its calculations based on system-wide planning considerations.

the in-service date of June 2004. This escalated cost, including the cost of land and facilities, was then discounted to the date of the Order in the instant proceeding--mid-1993. The amount was further adjusted by a general plant loading factor, an economic carrying charge rate, administrative and general loading factors for plant and labor, a reserve margin factor, and working capital, resulting in a present-value annual levelized cost of $60.76 per KW per year (id.; Exh. DPU-7, Sch. 10, at 1).

ii. Positions of the Parties

(A) The Energy Consortium

The Energy Consortium contends that marginal production costs should be calculated based on a year of need of 2000, not 2004 as proposed by the Company (Exh. EC-9, at 34; Energy Consortium Brief at 16).

The Energy Consortium asserts that the Company's incremental conservation and load management ("C&LM") programs have not been pre-approved by the Department and can be halted either by direction of the Department or by the Company; thus they are avoidable (Energy Consortium Brief at 17). Therefore, the Energy Consortium recommends calculating the year of need based on the system load excluding the effect of the incremental C&LM programs (id.). This revision moves the year of need from 2004 to 2000 and results in a marginal production cost of $73.83 per KW (Exh. EC-9, at 34; Energy Consortium Brief at 17).

Moreover, the Energy Consortium states that the Department's Order dismissing Cambridge's C&LM pre-approval request, Cambridge Electric Light Company and Commonwealth Electric Company, D.P.U. 92-218 (1993), supports its assertion that all incremental C&LM costs, and the resulting load reduction, are avoidable (Energy Consortium Reply Brief at 11).

(B) The Company

The Company states that it has correctly applied the modified peaker approach in determining marginal production capacity costs (Company Brief at 128). Further, Cambridge asserts that the resource plan used in its calculation of the first year of capacity deficiency is consistent with what was filed in the Companies pending IRM proceeding, Cambridge Electric Light Company/Commonwealth Electric Company, D.P.U. 91-234. The Company claims that its calculation of the year of need is actually conservative, because the calculation: (1) includes the load associated with large customers that are considering terminating service; (2) includes the planned retirement of Blackstone is 1995, even though the Company does not have a formal retirement date; (3) does not recognize the ability to call upon NEPOOL resources given the substantial excess capacity available in the region; (4) applies conservative planning assumptions to "planned" generation units; and (5) assumes that no incremental C&LM will be achieved after 1995 (id. at 179).

In response to the Energy Consortium's reference to the Department's dismissal of the Company's C&LM preapproval filing, Cambridge argues that the Department ordered the Company to issue a demand-side management ("DSM") request for proposal ("RFP") in less than three months (Company Reply Brief at 71, citing D.P.U. 92-218, at 14). Cambridge maintains that the Energy Consortium's proposal would violate Department precedent, which requires that utilities reflect the most probable level of DSM resources in their resource plans when calculating marginal production cost (id., citing Commonwealth Electric Company, D.P.U. 88-135/151, at 170 (1989)). The Company submits that the DSM RFP process should, over time, achieve at least the same conservative level of savings reflected in the Company's load and capacity schedules. Therefore, the Company asserts that the Department should accept 2004 as the in-service date for the hypothetical peaker unit (Company Reply Brief at 71).

iii. Analysis and Findings

The Department has previously found the modified peaker method to be an appropriate manner in which to calculate marginal production costs. D.P.U. 88-135/151, at 155; Western Massachusetts Electric Company, D.P.U. 87-260, at 153 (1988); Cambridge Electric Light Company, D.P.U. 87-221-A at 57 (1988). Cambridge has calculated its marginal production costs consistent with Department precedent. Accordingly, in the instant case, the Department approves the Company's use of the modified peaker method to calculate its marginal production costs.

With regard to the Energy Consortium's recommendation that the Company calculate its marginal production capacity costs based on a year of need that excludes the effect of incremental C&LM, the Department has previously ordered the removal from a peak load forecast of the effects of proposed C&LM programs that have not been approved by the Department or were not in place as of the close of the record in the proceeding. Western Massachusetts Electric Company, D.P.U 89-255, at 112 (1990); Western Massachusetts Electric Company, D.P.U. 88-250, at 143 (1989). The Department agrees with the Energy Consortium that, because the incremental C&LM programs have not been pre-approved by the Department, they cannot be characterized as committed programs. Accordingly, the

Department finds that the contributions from these programs should be eliminated from the first year of capacity deficiency analysis. Only the contributions from existing programs should be included in the resource plan. The effect of eliminating the incremental C&LM contribution is a capacity deficiency first occurring in the summer of 2000.[69] Moving the year of need from 2004 to 2000 results in a marginal production cost of $73.83 per KW.[70]

c. Capacity-Related Marginal Transmission Costs

The Company used the modified peaker approach to estimate its marginal transmission cost (Exh. CEL-21, at 3). Cambridge developed its marginal transmission costs by estimating the cost of its next transmission substation investment, $20.5 million[71] in 1992 dollars (for a 115 kilovolt ("KV") substation consisting of three transformers in the City of Cambridge) and translating this cost to 1993 dollars, by escalating the 1992 transmission investment costs to a projected 1999 in-service year, and then discounting the escalated costs back to 1993 using the Company's marginal cost of capital (Exh. CEL-21, at 3).

Next, Cambridge determined the forecasted marginal transmission based on the load

69 The Department's finding regarding the first year of capacity deficiency is for the purpose of calculating marginal production costs, only. The Department's finding regarding the contribution from C&LM programs and the year of need for resource planning purposes will be determined, based on the record in the IRM proceeding, Cambridge Electric Light Company/Commonwealth Electric Company, D.P.U. 91-234.

70 Findings in the rate-by-rate analysis section will reflect this change.

71 The Company originally calculated its marginal transmission costs based on the cost of a substation in 1990 dollars, but later corrected the amount to reflect the cost in 1992 dollars (Exh. DPU-7, Sch. 2; RR-EC-2 Supp., Sch. 2).

carrying capability of the facilities installed (id. at 4). The load carrying capability was determined by dividing the installed capacity of the substation by an estimated capacity redundancy adjustment factor, which reflects the loss of the single highest capacity transformer as a percent of projected 1999 peak load. Using this method, the Company adjusted marginal transmission cost by a general plant loading factor, an economic carrying charge rate, administrative and general loading factors for plant and labor, and cash working capital. The Company calculated a marginal transmission cost per KW-year of $33.19 (RR-EC-2 Supp., Sch. 10, at 1).[72]

The Company calculated its marginal transmission costs in accordance with the method approved by the Department in the Company's last rate case, Cambridge Electric Light Company, D.P.U. 89-109, at 68-70 (1989). The Intervenors did not contest the Company's proposed calculation (Energy Consortium Brief at 19). Based on the record in the instant case, the Department finds the marginal transmission cost proposed by the Company to be acceptable.

d. Capacity-Related Marginal Distribution Costs

i. The Company's Proposal

The Company calculated its marginal distribution capacity costs by determining the five-year trended average of net annual additions (additions less retirements) of capacity-related distribution for the period from 1987 to 1991. These costs were adjusted to mid-1993

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72 In its original calculation, the Company calculated marginal transmission costs based on a substation containing two transformers. This reduced the adjusted load carrying capability and resulted in higher marginal transmission costs of $43.76 per KW (Exh. DPU-7, Sch. 10, at 1).

dollars using the Handy-Whitman indices and DRI forecasts (id.). The Company stated that, unlike the calculations in previous cases, each year's retirements were also adjusted to mid-1993 dollars, account by account, based on average age at retirement, taken from the current depreciation study (id.). Costs were further adjusted by a general plant loading factor, an economic carrying charge rate, administrative and general loading factors for plant and labor, and working capital (Exh. DPU-7, Sch. 10, at 1). Marginal distribution costs were also broken into high tension, primary and secondary voltage levels based on incremental peak (id.). According to the Company, the resulting marginal distribution cost is $34.33 per KW-year at the high tension level; $24.06 per KW-year at the primary level; and $33.95 per KW-year at the secondary level (id.).

ii. Positions of the Parties

(A) The Energy Consortium

The Energy Consortium notes that the Company used the methodology approved in D.P.U. 89-109 in calculating its proposed marginal distribution costs (Energy Consortium Brief at 19). The Energy Consortium argues, however, that this methodology should be rejected because: (1) there is a large lump of distribution cost installed in 1989; (2) historic data are not a good measure of future distribution cost or the load carrying capability of the installed distribution facilities; and (3) the Company has not demonstrated any statistically significant correlation between the net distribution plant additions over the period studied and the increase in loads over the same period (id. at 20). The Energy Consortium recommends, therefore, that the Department order the Company, in future cases, to derive more accurate and stable methods in calculating marginal distribution costs similar to those used for marginal production and marginal transmission cost where the cost of incremental facilities are compared with the full load carrying capability of such equipment (id. at 20-21). In the instant proceeding, the Energy Consortium urges the Department to order the Company to use the marginal distribution cost as calculated in D.P.U. 89-109, adjusted for inflation from 1990 to 1993 (id. at 21).[73]

In response to the Company's assertion that net additions are the relevant incremental distribution costs because new distribution plant additions depend largely upon localized customer load growth, the Energy Consortium states that the Company uses system peak load growth rather than the sum of the localized customer load growth to derive its marginal distribution cost (Energy Consortium Reply Brief at 11). According to the Energy Consortium, the slowdown in the economy and in load growth creates unused distribution capability, thereby resulting in overestimated marginal distribution cost. Conversely, when load growth increases, the Energy Consortium argues that the Company will not have to add distribution plant because of this excess distribution capacity, and that this will result in unusually low marginal distribution costs (id. at 12).

Moreover, the Energy Consortium asserts that the Company alluded to an accounting problem with the classification of distribution-related plant in Accounts 360-362 (id. at 12).

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73 In its original testimony, the Energy Consortium recommended that the Company use a ten-year average between 1982 and 1991 when calculating marginal distribution costs (Exh. EC-9, at 40). The Energy Consortium later revised its position on brief by recommending a different approach to the calculation (Energy Consortium Brief at 21-22). Consequently, the Energy Consortium's position on brief bears no resemblance to its prefiled testimony or the testimony of its witnesses on cross-examination regarding the calculation of marginal distribution costs.

Therefore, according to the Energy Consortium, the trending of additions and retirements in Accounts 360-362 as the basis for calculating marginal distribution costs is suspect, because a portion of these costs are transmission-related (id.).

(B) The Company

The Company argues that the Energy Consortium's "unsupported brief arguments and discredited evidentiary presentation should be rejected" (Company Brief at 184). According to the Company, since new distribution plant equipment serves not only increased localized demand and new customer growth but also existing customers, the net additions are the relevant incremental distribution costs (id. at 182). Therefore, incremental distribution costs have been estimated for each distribution plant account based upon the new additions placed in service from 1987 through 1991 (id.).

Further, Cambridge maintains that it employed its previously accepted approach in determining the marginal cost of distribution plant with a significant refinement of adjusting each year's retirements to mid-1993 dollars, in the calculation of net additions (id. at 181) Cambridge asserts that the Energy Consortium ignored this refinement in the calculation (id. at 183). In response to the Energy Consortium's contention that the five years chosen are not representative of future distribution costs, the Company points out that any alternative calculation proposed by the Energy Consortium to mitigate the "lumpiness" results in higher marginal distribution costs (id.). Cambridge claims that the Energy Consortium, therefore, developed this alternative approach, which results in lower marginal distribution costs for the first time on brief (id. at 184). According to the Company, these alternative calculations reinforce the Company's calculation and usage of the most recent five years' experience (id.).

Cambridge asserts that the Energy Consortium's criticism that the Company did not demonstrate a statistical correlation between net distribution plant additions and increases in load has not been raised by the Department in prior Company proceedings (id.). The Company maintains that nothing in the record supports the Energy Consortium's suggestion that the Company has excess distribution capacity (Company Reply Brief at 71). In addition, Cambridge states that the Energy Consortium's reference to an accounting problem associated with the classification of distribution-related plant in Accounts 360-362 is wrong (id.).

iii. Analysis and Findings

The Company's method for calculating its marginal distribution costs is consistent with the method approved in its last rate case proceeding, with the exception of a change in the calculation of retirement indices, which addresses the concerns raised by the Attorney General in that case. See D.P.U. 89-109, at 70-72.

In the instant proceeding, the Energy Consortium has provided no evidence to justify a departure from the Department's precedent. Further, the Department agrees with the Company that the Energy Consortium's approach appears results-oriented as the Energy Consortium recommends using the results from a previous case that applied virtually the same methodology as is employed in the present case. It appears that the Energy Consortium suggests this approach only because it yields preferable results from the Energy Consortium's standpoint. Accordingly, the Department finds the Company's method of calculating its marginal distribution cost acceptable.

e. Energy-Related Marginal Costs

The Company calculated marginal energy costs by using a production cost simulator model to develop a weighted average lambda for each rating period. The weighted average lambda was computed by weighing each hour's lambda by the respective hourly load. These costs include start-up costs and were increased by a working capital adjustment, after taxes, based on fuel stocks only (Exh. CEL-21, at 9). The Intervenors did not contest the Company's proposed calculation of its marginal energy costs.[74]

The Department finds the Company's method of calculating marginal energy costs consistent with Department precedent and, therefore, is acceptable. However, the Department has previously found that marginal energy prices should reflect the most up-to-date fuel price assumptions available. See Fitchburg Gas and Electric Light Company, D.P.U. 90-122, at 44 (1990). In response to Record Request DPU-33, the Company provided revised marginal energy costs using a fuel price forecast that DRI prepared specifically for ComEnergy System. The Department finds it appropriate to use the most current information available when calculating marginal energy costs. Accordingly, the Department orders the Company to employ the marginal energy costs that were presented in Record Request DPU-33.

3. Translating Embedded and Marginal Costs into Rates

a. The Company's Proposal

According to the Company, the proposed rates reflect marginal cost pricing to the

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[74] The Energy Consortium's position regarding the translation of marginal costs into base rates is discussed in Section VII.C.3, below.

greatest extent possible, giving consideration to the goal of rate continuity and the revenue requirement constraint (Exh. CEL-19, at 12). In designing its proposed rates, Cambridge set demand charges equal to marginal costs. Customer charges were set significantly below marginal customer costs, taking rate continuity into consideration (id.). In order to determine preliminary energy charges (also referred to as net marginal energy cost), the Company subtracted the forecasted rate-year fuel charge, containing both capacity- and fuel-related expenses, of $0.03240 from marginal energy costs (id. at 14; Exh. CEL-26, Workpaper 5.1). Since marginal costs are below embedded costs for every rate class, the proposed energy charges were increased to recover the remaining revenues (Exh. CEL-19, at 12).

b. Positions of the Parties

i. The Energy Consortium

The Energy Consortium asserts that the Company should subtract both the forecasted fuel charge and the conservation charge from the marginal energy cost to determine its energy charges (Energy Consortium Brief at 23). The Energy Consortium asserts that the fact that the fuel charge and the conservation charge are collected on a KWH basis is the only relevant matter, regardless of the costs recovered through these charges (Energy Consortium Reply Brief at 13).

ii. The Company

The Company disagrees with the Energy Consortium's assertion that the conservation charge should be backed out of marginal energy costs when developing energy charges (Company Brief at 190, n.156). Cambridge asserts that since it did not include conservation charges in the marginal energy cost, they need not be backed out when designing rates. The Company agrees with the Energy Consortium, however, that since forecasted fuel charges are reflected in the marginal energy cost, they should be backed out when applying the marginal energy costs to base rates (Company Reply Brief at 72).

c. Analysis and Findings

The Department has recently addressed this issue and reaffirmed our well-established precedent. See Boston Edison Company, D.P.U. 92-92 (1992). The Department found that average fuel cost only - excluding purchased power, C&LM, and transmission - should be subtracted from the marginal energy cost to determine the net marginal energy cost. Id. at 22.

The Department agrees with the Company that it is inappropriate to subtract from the marginal energy charge the conservation charge. This charge is related to the recovery of conservation expenses and was not included in Cambridge's calculation of its marginal energy cost. Nor is it appropriate to use a fuel charge that reflects expenses such as purchased power and transmission expense.

Accordingly, the Department accepts neither Cambridge's proposal, nor the Energy Consortium's recommendation on this matter. The Company is directed to calculate preliminary energy charges by subtracting from marginal energy costs the average fuel portion of the forecasted fuel charge of $0.01600 per KWH.[75]

The design of each rate shall conform with the Department's findings in the rate-by-

[75] (($19,246,200 + $5,158,400) - $3,037,229)/1,334,684,000 KWH = $0.01600 per KWH (Exh. CEL-26, Workpaper 5.1).

rate analysis section, below.

4. Rate-by-Rate Analysis

a. Residential Rate R-1

Residential Rate R-1 is available for all regular domestic use of electricity (Exh. CEL-20, Sch. 2). The Company proposes a monthly customer charge of $8.00 and a single energy charge of 7.067 cents per KWH (id., Sch. 5, at 1). The Company states that if the energy charge were set at full marginal cost, Rate R-1 would have a monthly customer charge of $16.16 (Exh. CEL-19, at 14). The Company asserts that such a customer charge would cause a disproportionate pattern of bill impacts for both small and large use residential customers (id.). In order to level the pattern of rate impacts, the Company set the customer charge at $8.00 per month, and adjusted the energy charge upward to recover the remaining class revenue requirement (id. at 14-15). No party commented on the Company's proposed Rate R-1.

The Department has performed an analysis of the impacts on monthly customer bills from the increase in class revenue for Rate R-1. Based on this analysis, the Department finds that a customer charge of $7.50 is more consistent with the Department's goal of rate continuity than the Company's proposed customer charge of $8.00. Accordingly, the Department directs the Company to set the Rate R-1 monthly customer charge at $7.50 and reconcile the remaining class revenue requirement in the energy charge.

b. Residential Space Heating Rate R-3

Residential Rate R-3 is available for customers who use electric energy as their primary space heating source (Exh. CEL-20, Sch. 2). The Company proposes a monthly customer charge of $8.50 and a single energy charge of 7.477 cents per KWH (id., Sch. 5, at 1). The Company states that if the energy charge were set at full marginal cost, Rate R-3 would have a monthly customer charge of $32.35 (id. at 15). The Company asserts that such a customer charge would cause a disproportionate pattern of bill impacts for both small and large use residential customers. In order to level the pattern of rate impacts, the Company set the customer charge at $8.50 per month, and adjusted the energy charge upward to recover the remaining class revenue requirement (id.). No party commented on the Company's proposed Rate R-3.

The Department has performed an analysis of the impacts on monthly customer bills from the increase in class revenue for Rate R-3. Based on this analysis, the Department finds that a customer charge of $8.50 is both reasonable and consistent with the Department's goal of rate continuity. Accordingly, the Department directs the Company to set the Rate R-3 monthly customer charge at $8.50 and reconcile the remaining class revenue requirement in the energy charge.

c. Residential Low-Income Rates R-2 and R-4

i. The Company's Proposal

Cambridge presently offers discounted rates for residential non-heating (Rate R-2) and residential heating (Rate R-4) customers who receive Supplemental Security Income ("SSI"). The Company proposes to expand the eligibility of its low-income rates to include customers who are recipients of Refugee Assistance, Aid to Families with Dependent Children ("AFDC"), Emergency Aid to Elderly, Disabled and Children ("EAEDC"), Food Stamps, Medicaid, or Fuel Assistance (Exh. CEL-20, Sch. 2). In addition, a customer not receiving services under any one of the programs listed above would be eligible for the proposed expanded low income rates if the customer's family income did not exceed 175 percent of federal poverty guidelines (id.). Currently, customers on Rates R-2 and R-4 receive a 35 percent discount off their otherwise applicable Rate R-1 or R-3, customer and energy charges (Exh. CEL-19, at 15). The Company proposes no change to the amount of the discount.

Through information obtained from customer service personnel, Cambridge estimated that 4,760 potential customers qualify for SSI, Refugee Assistance, AFDC, EAEDC, Food Stamps, and Medicaid ("SSI/Welfare"); 957 potential customers qualify for Fuel Assistance; and 1,729 potential customers qualify, because their incomes do not exceed 175 percent of federal poverty guidelines (Exh. CEL-26, Workpaper 2; Tr. 7, at 94). The Company proposed penetration rates of 30 percent for recipients of SSI/Welfare, 75 percent for recipients of Fuel Assistance, and 15 percent for customers whose family income does not exceed 175 percent of federal poverty guidelines (Exhs. CEL-19, at 15; CEL-26, Workpaper 2). The Company stated that the penetration rates proposed in the present case are identical to those ordered by the Department in Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80 Phase One (1991) ("D.P.U. 90-331") (Tr. 7, at 44). By multiplying the potential customers in each category by their corresponding penetration rates, the Company calculated that 2,405 additional customers will take service under Rates R-2 and R-4, (Exh. CEL-26, Workpaper 2). The Company then designed Rate R-2, based on 2,238 estimated customers plus 904 test-year R-2 customers, and designed Rate R-4, based on 167 estimated customers plus 49 test-year R-4 customers (id.; Exh. CEL-20, Sch. 6, at 2, 4).

Cambridge calculated the total Rate R-2 subsidy by multiplying the estimated R-2 customers' billing units by the difference between the proposed customer and energy charges for Rate R-1 and the proposed discounted customer and energy charge for Rate R-2 (Tr. 7, at 50). The Company performed the same calculation for Rates R-3 and R-4. The Company proposes to allocate the subsidy for Rates R-2 and R-4 to the other rate classes using a rate base allocator (Exh. CEL-20, Schs. 4, 4A).

ii. Positions of the Parties

(A) The Attorney General

The Attorney General does not dispute the Company's proposed expansion of the low-income rate, penetration rates, or method of allocating the subsidy. However, the Attorney General challenges the Company's calculation of the amount of the subsidy, because it includes additional customers who were eligible already for the existing low-income rate (Attorney General Brief at 117-118). The Attorney General points out that the Company calculated the low-income subsidy by assuming that 30 percent of an estimated 4,760 total potential customers would enroll (id. at 117-118). According to the Attorney General, since a low-income rate is already offered to SSI recipients, the Company should not include SSI-eligible customers in its calculation (id. at 118). The Attorney General asserts that 1,866 customers are SSI recipients; thus, only 2,894 customers should be included in calculation[76] (id.; Tr. 7, at 98). The Attorney General's calculation reflects the removal of 560 SSI

[76] 4,760 - 1,866 = 2,894

customers.[77]

(B) The Company

According to the Company, the Department has previously found that penetration rates should apply to the total number of eligible customers and not just to the number of incremental customers (Company Brief at 192, citing D.P.U. 90-331 at 273). Moreover, the Company submits that its calculation of the total low-income subsidy is conservative, because it likely understates participation levels (Company Reply Brief at 73). Cambridge claims that information from the Massachusetts Department of Welfare reveals that there are more SSI/Welfare customers than the Company assumed in its calculation (id. at 74).

iii. Analysis and Findings

The Department has held that subsidized rates should be available for low-income customers, provided that the impact of the subsidy on other customers is not unreasonable. Massachusetts Electric Company, D.P.U. 89-21, at 43 (1989); Western Massachusetts Electric Company, D.P.U. 87-260, at 177 (1988); Eastern Edison Company, D.P.U. 88-100, at 62 (1988).

The issues to be decided are: (1) whether the Company's overall proposal to expand the low-income discount rates is reasonable; (2) how many of the Company's customers are eligible to participate in the low-income discount rates; and (3) what percentage of customers will actually receive the discounts. No party commented on the Company's proposal to expand the eligibility requirements of the low-income discount rates.

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77 (1,866 X .30) = 560

The Company's proposal is basically consistent with other utility companies' expansion of low-income discount rates. Boston Edison Company, D.P.U. 92-92, at 40-45 (1992); Eastern Edison Electric Company, D.P.U. 92-148, at 7-9 (1992). In the present case, the Department approves the Company's proposed expansion of the low-income discount rates to the groups listed on the availability clauses of Rates R-2 and R-4.

In regard to the Attorney General's argument that the Company incorrectly estimated the number of additional customers who would take service under the expanded R-2 and R-4 rates, the Company correctly points out that in D.P.U. 90-331, the Department accepted a calculation based on gross population. Id. at 273. However, in a more recent case, the Department has found that the correct method of determining potential customers excludes customers who already qualify under the existing low-income discount rate. See Bay State Gas Company, D.P.U. 92-111, at 329, 334 (1992). See also, Western Massachusetts Electric Company, D.P.U. 90-300, at 68-71 (1991). Therefore, the Department agrees with the Attorney General that the SSI recipients should not be included in the low-income discount rate expansion calculation. Accordingly, the Department orders the Company to exclude the 1,866 SSI recipients from the number of potential customers. After applying the revised number of potential customers in that category to the 30 percent participation rate, the number of estimated customers is reduced by 560 customers.[78] The Company is directed to adjust the billing determinants between Rates R-1 and R-2, and between

[78] The Company should apply 93 percent of the reduction to Rate R-2 and seven percent of the reduction to Rate R-4, which is the proportion applied by the Company in its low-income discount expansion proposal.

Rates R-3 and R-4 in its compliance filing to be consistent with this finding.

The penetration rates are the same as those approved in D.P.U. 90-331. Based on the record in this case, the Department finds them to be appropriate.

Previously, the Department has found that the low-income discount rate should apply retroactively back to the date the rate became effective for all customers who qualify See Bay State Gas Company, D.P.U. 92-111-A at 15-16 (1993); D.P.U. 92-111, at 333-334. The Department finds this to be a fair and appropriate undertaking for Cambridge as well. Accordingly, the Department directs the Company to apply the low-income discount retroactively to all customers who qualify until the estimated penetration level is reached.

d. Optional Residential TOU Rate R-5

Residential Rate R-5 is the Company's optional time of use ("TOU") rate for domestic non-heating customers (Exh. CEL-20, Sch. 2). Since there are few customers taking service under this rate, the Company proposes to design this rate based on the combined billing determinants and revenue requirements for the Residential and Residential TOU classes (Exh. CEL-19, at 18).

The Company proposes a monthly customer charge of $12.00, which includes a $4.00 TOU meter charge, and peak and off-peak period energy charges of 24.325 cents per KWH and 1.880 cents per KWH, respectively (Exhs. CEL-19, at 17-18; CEL-20, Sch. 5, at 1). The Company added the per KWH price of capacity for the production, transmission and distribution functions to the peak load period energy price (Exh. CEL-19, at 17-18).

The Company states that if the energy charges were set at full marginal cost, Rate R-5 would have a monthly customer charge of $19.80 (Exh. CEL-20, Sch. 6, at 1). The

Company asserts that this rate design would result in significantly higher customer charges and significantly lower energy charges than the proposed Rate R-1 (Exh. CEL-19, at 17). The Company maintains that energy charges set at marginal cost would send inappropriate price incentives to customers to switch from the standard Rate R-1 to the TOU Rate R-5 (id. at 17-18). Consequently, the Company set the customer charge at $12.00 and adjusted peak and off-peak period energy charges uniformly upward to recover the remaining revenue requirements for the R-1 and R-5 classes (id.; Exh. CEL-20, Sch. 6, at 6). No party commented on the Company's proposed Rate R-5.

Since the Company designed Rate R-5 based on the combined billing determinants and revenue requirements for Rates R-1 and R-5, the Department has performed an analysis of the impacts on monthly customer bills from the increase in revenues for Rates R-1 and R-5. The Department finds that the appropriate customer charge for Rate R-5 that corresponds to the customer charge found to be appropriate for Rate R-1, is $11.50, which includes a $4.00 TOU meter charge, and is reasonable and consistent with the Department's goal of rate continuity. Accordingly, the Department directs the Company to set the Rate R-5 monthly customer charge at $11.50 and to reconcile the remaining revenue requirement for the R-1 and R-5 classes in the energy charges, while maintaining the differential between peak and off-peak marginal energy costs.

e. <u>Optional Residential Space Heating TOU Rate R-6</u>

Residential Rate R-6 is the Company's optional time-of-use ("TOU") rate for domestic heating customers (Exh. CEL-20, Sch. 2). Since there are few customers taking service under these rates, the Company proposes to design this rate based on the combined billing determinants and revenue requirement for the Residential Heating and Residential Heating TOU classes (Exh. CEL-19, at 18). The Company proposes a monthly customer charge of $12.50, which includes a $4.00 TOU meter charge, and peak and off-peak period energy charges of 27.695 cents per KWH and 2.370 cents per KWH, respectively (Exhs. CEL-19, at 18; CEL-20, Sch. 5, at 1). The Company added the per KWH price of capacity for the production, transmission and distribution functions to the peak load period energy price (Exh. CEL-19, at 18).

The Company states that if the energy charges were set at full marginal cost, Rate R-6 would have a monthly customer charge of $35.21 (id. at 17). The Company asserts that this rate design would contain significantly higher customer charges and significantly lower energy charges than the proposed Rate R-3 (Exh. CEL-19, at 17). The Company maintains that energy charges set at marginal cost would send inappropriate price incentives to customers to switch from the standard Rate R-3 to the TOU Rate R-6 (id. at 17-18). Consequently, the Company set the customer charge at $12.50 and adjusted peak and off-peak period energy charges to recover the remaining revenue requirement for Rates R-3 and R-6 (id.; Exh. CEL-20, Sch. 6, at 6). No party commented on the Company's proposed Rate R-6.

Since the Company designed Rate R-6 based on the combined billing determinants and revenue requirements for Rates R-3 and R-6, the Department has performed an analysis of the impacts on monthly customer bills from the increase in class revenue for Rates R-3 and R-6. The Department finds that a customer charge of $12.50, which includes a $4.00 TOU meter charge, is reasonable and meets the Department's goal of rate continuity.

Accordingly, the Department directs the Company to set the Rate R-6 monthly customer charge at $12.50 and to reconcile the remaining revenue requirement for the R-3 and R-6 classes in the energy charges, while maintaining the differential between peak and off-peak marginal energy costs.

f. General Service Rate G-0

The Company proposes a non-demand Rate G-0 for customers with under 10 KW of demand (id. at 12-13). The Company stated that its rationale for developing a non-demand general service rate is the result of a Department directive in Commonwealth Electric Company, D.P.U. 90-331 (1991) to examine the feasibility of separating its Small General Service Rate G-1 into two separate rates; demand and non-demand (Exh. DPU-6, at 1). Since Cambridge's Rate G-1 has a similar rate structure to Commonwealth Electric's Rate G-1, Cambridge proposes to separate its present Rate G-1 into demand and non-demand rates (id.). The Company originally proposed this rate for customers whose load for billing purposes does not exceed or is estimated not to exceed 10 KW in any billing month (Exh. CEL-20, Sch. 2). During the proceeding, however, the Company revised the availability of the rate for customers whose load for billing purposes does not exceed or is estimated not to exceed 10 KW in any three consecutive billing months (Exh. DPU-6, at 1, 3). According to Cambridge, this revision better reflects the need for demand metering and simplifies the process of determining whether or not to install such metering (id.). The change in the availability of Rate G-0 shifted the ratio of Rate G-0 billing quantities to Rate

G-1 billing quantities (id.).[79]

The Company proposes a monthly customer charge of $5.00 and a single energy charge of 6.374 cents per KWH (id., Sch. 5, at 1). The Company states that if the energy charge were set at full marginal cost, Rate G-0 would have a monthly customer charge of $16.96 (Exh. CEL-19, at 19). The Company asserts that such a customer charge would have an adverse impact on the small use customer that would qualify for this proposed rate (id.). In order to level the pattern of rate impacts, the Company set the customer charge at $5.00 per month, and adjusted the energy charge upward to recover the remaining revenue requirement (Exh. CEL-19, at 19). No party commented on the Company's proposed introduction of Rate G-0 or its design.

The Company correctly points out that in D.P.U. 90-331, the Department directed Commonwealth Electric to include an analysis in its next rate proceeding of the feasibility of separating the G-1 rate class into two rate classes based on a 10 KW demand breakpoint.[80] Id. at 287. Since Cambridge's Rate G-1 is structured similarly to Commonwealth Electric's Rate G-1, the Department finds the Company's proposal to be appropriate. Accordingly, the Department accepts the introduction of Rate G-0.

The Department has performed an analysis of the impacts on monthly customer bills

79 The Company also proposes a corresponding non-demand TOU Rate G-6 and a revision to the rate's availability clause (Exh. DPU-6, at 2).

80 In D.P.U. 90-331, the Department found that (1) Commonwealth Electric's Rate G-1, which included customers with less than 10 KW of demand, raised continuity concerns, and (2) there was a cost justification for not charging customers with less than 10 KW of demand a demand charge. Id. at 287.

from the increase in class revenue for Rate G-0. Based on this analysis, the Department finds that a customer charge of $5.00 is both reasonable and consistent with the Department's goal of rate continuity. Accordingly, the Department directs the Company to set the Rate G-0 monthly customer charge at $5.00 and to reconcile the remaining class revenue requirement in the energy charge.

g. General Service Rate G-1

Rate G-1 is available for non-residential uses of electricity to all customers whose demand is between 10 KW and 100 KW (id. at 20). The proposed Rate G-1 consists of a monthly customer charge of $8.00, demand charges of $9.47 per KW for demand up to 10 KW and $13.07 per KW for demand over 10 KW, and a single energy charge of 2.127 cents per KWH (Exh. DPU-6, Sch. 5, at 1). The demand charge for demand over 10 KW was set at the marginal cost of production, transmission and distribution.

The Company states that if the energy charge were set at full marginal cost, Rate G-1 would have a monthly customer charge of $109.72 (Exh. CEL-19, at 20). The Company asserts that such a customer charge is too high and would violate rate continuity objectives (id.). Consequently, the Company set the customer charge at $8.00 per month, and adjusted the energy charge upward to recover the remaining class revenue requirement (id.). No party commented on the Company's proposed Rate G-1.[81]

The Department has performed an analysis of the impacts on monthly customer bills

81 Although the Energy Consortium's rate design recommendations focus specifically on Rate G-3, its witness, Mr. Drazen, states that some of his comments apply to other (demand) rates as well (Exh. EC-9, at 30).

from the increase in class revenue for Rate G-1. Based on this analysis, the Department finds that a customer charge of $8.00 is both reasonable and consistent with the Department's goal of rate continuity. Accordingly, the Department directs the Company to set the Rate G-1 monthly customer charge at $8.00, to set the demand charge for up to 10 KW of demand at $9.47 per KW and the demand charge for over 10 KW of demand equal to marginal cost, and to reconcile the remaining class revenue requirement in the energy charge.

h. General TOU Rate G-2

Rate G-2 is a mandatory TOU rate for all non-residential customers who consistently establish demands of 100 KW or greater for at least 12 consecutive months (Exh. CEL-19, at 21). The proposed Rate G-2 consists of a monthly customer charge of $100.00, demand charges of $6.68 per kilovolt-ampere ("KVA") for the first 100 KVA and $13.35 per KVA for over 100 KVA, and peak, shoulder and off-peak period energy charges of 3.131 cents per KWH, 2.490 cents per KWH and 1.901 cents per KWH, respectively (Exh. DPU-6, Sch. 5, at 2).

The Company states that if the energy charges were set at full marginal cost, Rate G-2 would have a monthly customer charge of $2,742.00 (Exh. CEL-19, at 21). The Company asserts that such a customer charge would cause relatively high increases to small use customers and would violate rate continuity objectives (id. at 20). In order to level the pattern of rate impacts, the Company set the customer charge at $100.00 per month. Cambridge set the demand charge for the first 100 KVA at 50 percent of marginal cost and set the demand charge for over 100 KVA at marginal cost. The Company increased the energy charges uniformly to recover the remaining class revenue requirement (id.). No party commented on the Company's proposed Rate G-2.

The Department has performed an analysis of the impacts on monthly customer bills from the increase in class revenue for Rate G-2. Based on this analysis, the Department finds that a customer charge of $100.00 is both reasonable and consistent with the Department's goal of rate continuity. Accordingly, the Department directs the Company to set the Rate G-2 monthly customer charge at $100.00, to set the demand charge for the first 100 KVA at 50 percent of marginal cost, to set the demand charge for over 100 KVA equal to marginal cost, and to reconcile the remaining class revenue requirement in the energy charges, while maintaining the differential between peak and off-peak marginal energy costs.

i. Large General 13.8 KV TOU Rate G-3

i. The Company's Proposal

Rate G-3 is a mandatory TOU rate for all customers who (1) take service at 13.8 KV and (2) establish demands of 100 KW or greater for at least 12 consecutive billing months (Exh. CEL-19, at 21). The proposed Rate G-3 consists of a monthly customer charge of $100.00, demand charges of $10.30 per KVA, and peak, shoulder and off-peak energy charges of 2.669 cents per KWH, 2.048 cents per KWH, and 1.484 cents per KWH, respectively (Exh. CEL-20, Sch. 5, at 2).

The Company states that if the energy charges were set at full marginal cost, Rate G-3 would have a monthly customer charge of $18,769.00 (Exh. CEL-19, at 21-22). The Company asserts that such a customer charge would cause relatively high increases to small use customers and would violate rate continuity objectives (id. at 22). In order to level the pattern of rate impacts, the Company set the customer charge at $100.00 per month, the demand charge at marginal cost, and increased the energy charges uniformly to recover the remaining class revenue requirement (Exh. CEL-19, at 22).

ii. Positions of the Parties

(A) The Energy Consortium

The Energy Consortium asserts that the Company's proposed design fails to give consistent price signals by setting the customer charge far below marginal cost, the energy charges far above marginal cost and the demand charge equal to marginal cost. The Energy Consortium points to the Department's precedent regarding the reconciliation of marginal-based revenues with embedded revenues, which states, "The most appropriate method is to adjust the most inelastic portion of the bill, i.e., the customer charge" (Energy Consortium Brief at 25, citing Western Massachusetts Electric Company, D.P.U. 84-25, at 176 (1984)).

The Energy Consortium proposes that Rate G-3 be designed with customer charges of $100 for customers whose peak demand is between 0 and 200 KVA, $300 for customers whose peak demand is between 201 and 1,000 KVA, and $567 for customers whose peak demand is over 1,000 KVA (Exh. EC-9, at 46; Energy Consortium Brief at 27-28). The Energy Consortium proposes that demand and energy charges be set at an equal percentage above marginal energy costs as necessary to reconcile marginal costs with the revenue requirement (id.). To the extent that the reconciliation of embedded revenues and marginal costs by an equal percent above marginal cost may cause a continuity problem, the Energy Consortium suggests that the Department does not have to raise demand and energy charges equi-proportionally, but also should not follow the Company's proposal (Energy Consortium

Reply Brief at 13-14).

The Energy Consortium asserts that its proposed rate design is more stable and consistent with marginal cost price signals than the design proposed by the Company, and will not have undue impact on any customers[82] (id. at 28).

(B) The Company

Cambridge asserts that the Department should accept the Company's traditional three-part rate design for Rate G-3, because it is designed consistent with Department principles of marginal cost pricing and continuity considerations (Company Brief at 192, citing Cambridge Electric Light Company, D.P.U. 89-109). In contrast, the Company contends that the rate design recommended by the Energy Consortium will unduly affect small use customers, thereby violating continuity considerations (id.). In addition, Cambridge argues that the Energy Consortium has provided no evidence that the differentiated customer charge could be administered economically, nor does the differentiated customer charge result in a significant change in energy charges (id.).

iii. Analysis and Findings

The Department has performed an analysis of the impacts on monthly customer bills from the increase in class revenue for Rate G-3 under the Company's proposed rate design. Based on this analysis, the Department finds that the bill impacts affecting customers at

[82] In his prefiled testimony, Mr. Drazen stated that the impact on individual customers is equal to or less than those occurring under the Company's proposed rates, except for customers with poor load patterns (Exh. EC-9, at 46). The Department notes that the revenue requirement assumed by the Energy Consortium is $2 million less than the revenue requirement proposed by the Company (Exhs. CEL-51, at 1; CEL-20, Sch. 3A).

lower levels of consumption are unreasonable. The Company's present rate structure which includes a flat demand charge for the first 100 KVA of demand, compared with the Company's proposed demand charge set at marginal cost for each KVA, creates a significant increase in bills for some customers.

The Energy Consortium recommends a rate structure that includes a three-part customer charge, and demand and energy charges raised an equal percentage above marginal cost. Regarding the Energy Consortium's recommended customer charges, the Energy Consortium has provided no cost justification for a three-part customer charge. Further, the Department agrees with the Company that the Energy Consortium has not provided evidence that the differentiated customer charge could be administered economically. Moreover, the increase in the customer charge from zero to $100, as proposed by the Company, sufficiently sends the signal to customers that the Company incurs costs of providing customer-related services to them, while maintaining consistency with the Department's goal of rate continuity. Accordingly, the Department rejects the Energy Consortium's recommended customer charges.

The Department has performed an analysis of the impacts on monthly customer bills from the increase in class revenue for Rate G-3 under the Energy Consortium's recommended equi-proportional method. Based on this analysis, the Department finds that the bill impacts affecting customers at lower levels of consumption are unreasonable. The Department finds that a demand charge that is applicable to all KVA usage as proposed by the Company and the Energy Consortium disproportionately impacts the low-use customers within this rate. Accordingly, the Department rejects both the Company's and the Energy

Consortium's proposed design of Rate G-3. Therefore, the Company is directed to maintain its present structure of charging $624.66 for the first 100 KVA and to set the demand charge for over 100 KVA at $11.50 per KVA. Additionally, the Department directs the Company to set the Rate G-3 monthly customer charge at $100.00, and to reconcile the remaining class revenue requirement in the energy charges, while maintaining the differential between peak, shoulder, and off-peak marginal energy costs.

Because of the wide variety of demand and energy characteristics of the customers in Rate G-3, it is difficult to design the rate and mitigate the bill impacts across all demand and energy usage levels. Therefore, the Department directs the Company to submit a report in its next rate case proceeding addressing the feasibility of dividing the G-3 class into separate rate classes. In particular, the Company should evaluate the costs to serve Rate G-3 customers and their load characteristics.

j. General Service TOU Rate G-4

Rate G-4 is the small optional general TOU rate (Exh. CEL-19, at 22). Since there are three customers presently taking service under Rate G-4, the Company designed the rate using all billing determinants applicable to Rate G-1, which is the rate from which the customer would be transferring (id. at 23). The proposed Rate G-4 consists of a monthly customer charge of $12.00, which includes a $4.00 TOU meter charge, a demand charge of $13.07 per KW, and peak and off-peak period energy charges of 2.469 cents per KWH and 1.338 per KWH, respectively (Exh. DPU-6, Sch. 6, at 17-18).

The Company states that if the energy charges were set at full marginal cost, Rate G-4 would have a monthly customer charge of $113.89 (Exh. CEL-19, at 23). The

Company asserts that such a customer charge would result in significantly different average energy charges than Rate G-1 and would generate inappropriate price incentives for certain Rate G-1 customers (id.). Consequently, the Company reduced the customer charge to $12.00 per month and set the demand charge at marginal cost. Cambridge increased the energy charges uniformly to recover the remaining revenue requirement (Exh. CEL-19, at 22). No party commented on the Company's proposed Rate G-4.

In order to be consistent with the design of Residential TOU rates, the Department has performed an analysis of the impacts on monthly customer bills from the increase in revenues for Rates G-1 and G-4. Based on this analysis, the Department finds that a customer charge of $12.00, which includes a $4.00 TOU meter charge, is both reasonable and consistent with the Department's goal of rate continuity. Accordingly, the Department directs the Company to set the Rate G-4 monthly customer charge at $12.00, to set the demand charge equal to marginal cost, and to reconcile the remaining revenue requirements for the G-1 and G-4 classes in the energy charges, while maintaining the differential between peak and off-peak marginal energy costs.[83]

k. Commercial Space Heating Rate G-5 (Closed)

Rate G-5 is the commercial space heating rate, which is closed to new customers (Exh. CEL-19, at 23). The proposed Rate G-5 consists of a monthly customer charge of $9.00, and a two-step energy charge of 4.725 cents per KWH for the first 5000 KWH and

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83 The Company is directed in its compliance filing to design Rate G-4 based on the combined billing determinants as well as the combined revenue requirements for Rates G-1 and G-4.

6.088 cents per KWH for all additional KWH (Exh. DPU-6, Sch. 6, at 17-18).

The Company states that if the energy charges were set at full marginal cost, Rate G-5 would have a monthly customer charge of $503.36 (Exh. CEL-19, at 23). The Company asserts that such a customer charge would result in disproportionately high increases to small use customers, thus violating the goal of continuity (id. at 23). Consequently, the Company reduced the customer charge to $8.00 per month. Cambridge set the energy charge in the first step at 4.725 cents per KWH and increased the second step to recover the remaining class revenue requirement (id., at 22).

The Department has performed an analysis of the impacts on monthly customer bills from the increase in class revenue for Rate G-5. Based on this analysis, the Department finds that a customer charge of $8.00 is both reasonable and consistent with the Department's goal of rate continuity. Accordingly, the Department directs the Company to set the Rate G-5 monthly customer charge at $8.00, to set the energy charge for usage up to 5000 KWH at 4.488 cents per KWH, and to reconcile the remaining class revenue requirement in the energy charge for usage over 5000 KWH.

I. Optional General TOU Rate G-6

The Company proposes a new rate, which corresponds to the proposed non-demand Rate G-0, designated as Rate G-6 (Exh. CEL-19, at 13). Since this is a new rate offering with no customers presently taking service under it, the Company proposes to design the rate using the revenues and billing parameters for the proposed Rate G-0 (Exh. CEL-19, at 22, 24). The proposed Rate G-6 consists of a monthly customer charge of $9.00, which includes a $4.00 TOU meter charge, and peak and off-peak period energy charges of 16.656

cents per KWH and 2.072 cents per KWH, respectively (Exh. DPU-6, Sch. 5, at 3). Consistent with our findings regarding Rate G-0, above, the Department finds the Company's introduction of Rate G-6 to be acceptable.

Since the Company designed Rate G-6 based on the billing determinants and revenue requirement for Rate G-0, the Department has performed an analysis of the impacts on monthly customer bills from the increase in class revenue for Rate G-0. Based on this analysis, the Department finds that a customer charge of $9.00, which includes a $4.00 TOU meter charge, is both reasonable and consistent with the Department's goal of rate continuity given that only customers who would find it beneficial to take service under this rate would do so. Accordingly, the Department directs the Company to set the Rate G-6 monthly customer charge at $9.00 and to uniformly reconcile the remaining revenue requirement for the G-0 class in the energy charges, while maintaining the differential between peak and off-peak marginal energy costs.

m. Large General Interruptible Rate I-1

i. The Company's Proposal

The Company's proposed Large General Interruptible Service Rate I-1 provides for credits to the demand charges otherwise applicable to customers taking service on either the Company's proposed G-2 or G-3 rates who agree to interrupt a minimum of 100 KVA (Exh. CEL-20, Sch. 2).

The proposed demand charge credits are based on the Company's marginal cost for production and transmission capacity and the level of the customers' interruptible load (Exh. CEL-27, at 3). There are three credit price options (A, B, C) available, depending on the number of times the customer is willing to be interrupted. Option A allows the Company to interrupt the customer's load a maximum number of 60 times or 360 maximum cumulative hours per year. Option B allows the Company to interrupt the customer's load a maximum number of 40 times or 240 maximum cumulative hours per year. Option C allows the Company to interrupt the customer's load a maximum number of 20 times or 120 maximum cumulative hours per year (id.). The monthly credit for Option B is two-thirds of the credit for Option A. Similarly, the monthly credit for Option C is one-third of the credit for Option A (Tr. 7, at 105).

In addition, the proposed rate introduces a definition of the credited interruptible load ("CIL") and includes associated language for applying to the CIL the calculation of demand charge credits. The CIL is calculated by multiplying 84 percent by either (1) the nominated interruptible load or (2) the actual interrupted load, depending on whether the customer's load was interrupted, and the timing of such interruption. The multiplier is a ratio of average daily maximum loads to maximum monthly load for the Rates G-2 and G-3. The Company also revised provisions in the rates in order to soften the impact associated with the customer's failure to interrupt (Exh. CEL-27, at 4-5).

During the proceeding, the Company proposed that Rate I-1 be closed to new customers, since the Company does not receive any cost benefits for interrupting customers due to its over-capacity situation (Tr. 7, at 9). The Company proposed to include a provision in the rate that would allow the Company to reopen the rate to new customers when the Company's excess capacity situation subsides (id.).

ii. Positions of the Parties

(A) The Energy Consortium

According to the Energy Consortium, the low interruptible credits in Rate I-1, in conjunction with the high energy charges in Rates G-2 and G-3, are inappropriate (Energy Consortium Brief at 28). In making this assertion, the Energy Consortium compares the present Rate I-1 credit of $10.00 per KVA with the present Rate G-3 demand charge of $10.84 per KVA versus the proposed Rate I-1 credit of $7.56 per KVA with the proposed Rate G-3 demand charge of $10.30 per KVA and maintains that the cost for distribution facilities, which is the remainder of the demand charge minus the interruptible credit has increased greatly from $0.84 per KVA under the present rates to the $2.76 per KVA under the proposed rates (id. at 29). The Energy Consortium asserts that this discrepancy results in a 226 percent increase in distribution facilities. Therefore, according to the Energy Consortium, this further supports its recommendation regarding marginal distribution costs and the proportionality method of designing Rate G-3 (id.).

(B) The Company

Cambridge maintains that the design of Rate I-1 is consistent with Department precedent and that the Department should ignore the Energy Consortium's arguments regarding Rate I-1 credit levels (Company Brief at 193). According to the Company, the only driving force in the calculation of interruptible credits is the Company's surplus capacity; thus, the interruptible credits should be reduced (id. at 194). Cambridge asserts that Department precedent requires that marginal production costs be credited to interruptible customers' demand charge, regardless of the design of the demand charge (id., citing

Commonwealth Electric Company, D.P.U. 89-114/90-331/91-80 Phase One ("D.P.U. 90-331") at 308 (1991); Cambridge Electric Light Company, D.P.U. 89-109, at 111 (1989)).

iii. Analysis and Findings

The Department's precedent regarding the calculation of interruptible credits is well-established. Interruptible credits should be based on the marginal cost of production and transmission, regardless of the level of marginal costs compared to the applicable Rates G-2 and G-3. See D.P.U. 90-331, at 308; D.P.U. 89-109, at 111. Therefore, the Department finds that the Energy Consortium's arguments regarding the calculation of interruptible credits is unfounded.[84] The Department's findings on the Energy Consortium's arguments regarding the calculation of marginal distribution costs and the design of Rates G-2 and G-3 are discussed in Sections VII.C.2.d., VII.C.4.h. and VII.C.4.i., respectively, above.

Regarding the Company's proposal to close Rate I-1 to new customers, the Department recognizes that a company with abundant capacity situation may be indifferent to whether or not a customer interrupts. Correspondingly, given the level of marginal costs in relation to embedded costs, few customers may find it beneficial to interrupt their service. Therefore, the interruptible credits, which reflect the Company's capacity situation, dictate the likelihood of a customer interrupting. Thus, it is unnecessary to close the subject rate. Accordingly, the Department rejects the Company's proposal to close Rate I-1.

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84 The Department's findings regarding marginal production cost combined with the Company's revision of marginal transmission cost result in an interruptible credit under Option A of $6.94 per KVA for Rate G-2, and $7.62 per KVA for Rate G-3.

n. Economic Development Rates G-2(ED) and G-3(ED)

i. The Company's Proposal

The Company proposes two economic development rates to be available to qualifying industrial customers who establish new or expanded loads on the Company's system (Exh. CEL-27, at 5). The tariffs cover a six-year period and would provide to qualified customers the following discounts exclusive of the fuel charge and energy charges on the otherwise applicable G-2 or G-3 base rates: 50 percent per year for the first three years; and 37.5 percent, 25 percent, and 12.5 percent for the following three years. At the end of the six years, the customer would be transferred to the G-2 or G-3 rate as appropriate (Exhs. CEL-20, Sch. 2; CEL-27, at 5).

ii. Positions of the Parties

(A) The Attorney General

The Attorney General argues that the Department should reject proposed Rates G-2(ED) and G-3(ED) as, "unnecessarily broad and insufficiently supported" (Attorney General Brief at 117). The Attorney General maintains that Cambridge's proposed rates are most likely unnecessarily large and cover too long a period of time (Attorney General Reply Brief at 54). Since the Department is currently reviewing economic development rates in Commonwealth Electric Company, D.P.U. 93-41, the Attorney General urges the Department to reject Cambridge's proposal pending the outcome of that proceeding (id.).

Additionally, the Attorney General argues that economic development rates offer a discount regardless of whether the customer participates in DSM or adds a single job in Massachusetts (Attorney General Brief at 117). Thus, the Attorney General contends that the

Company has not shown that the public interest would be served by offering these rates (id.).

(B) The Company

Cambridge states that Rates G-2(ED) and G-3(ED) should be accepted, because (1) they conform to Commonwealth Electric's previously-accepted rates, and (2) the Company has addressed the concerns expressed by the Attorney General during the course of the proceeding (Company Brief at 192).

First, Cambridge states that, unlike the Attorney General's assertion that the proposed discounts apply for simple load retention, the discounts apply only to expanded load (id. at 191). Second, according to the Company, the proposed rates require existing customers to increase employment levels in order to qualify for the discount (id.). Third, in response to the Attorney General's criticism that the rates should require customer participation in DSM, the Company points out that its witness testified that the Company would not object to such provisions in the rate as long as participation would be consistent with program and budget provisions articulated by the Department in the Company's DSM proceedings (id.; Tr. 4, at 68).

iii. Analysis and Findings

While the proposed economic development rates are generally consistent with Commonwealth Electric's approved economic development rates and the Company has been willing to revise provisions in the proposed rates in order to accommodate the Attorney General's concerns, it is important to note that presently the Department is investigating an appropriate standard of review to be applied to all such rates. Therefore, the Department finds that Cambridge's economic development rates should be consistent with the

Department's standards as promulgated in D.P.U. 93-41. Accordingly, the Department rejects the Company's proposed Rates G-2(ED) and G-3(ED) pending the outcome of D.P.U. 93-41.[85]

The Department notes that it has approved special contracts where existing tariffs cannot be applied and where existing ratepayers can benefit. The Department encourages the Company to make special contracts available to customers who can prove that there are no available tariffs to meet their particular needs. As with all special contracts, the Company must submit them to the Department for review and approval.

o. Outdoor Lighting Rate S-1

The rates listed on the Company's proposed Rate S-1 include two major components: (1) the cost of delivering power to the lighting location (central system cost); and (2) the carrying cost of the various lighting fixtures and their appurtenances (specific facilities costs) (Exh. CEL-19, at 25).

The portion of the price related to the central system costs was developed from results of the revenue reconciliation model. The portion of the price covering specific facilities costs reflects the results of the Outdoor Lighting Marginal Cost Study (id.).

The prices listed in the "grandfathered" additional charges section of the rate schedule were adjusted by applying the average percentage adjustment to each existing charge (id.). Prices for additional charges which are not grandfathered reflect full marginal costs. Floodlighting prices were calculated by adding the reconciled central system costs to the

85 The tariff in D.P.U. 93-41 has been suspended for investigation until September 1, 1993.

adjusted marginal specific facilities cost. The record indicates that the proposed rate for each lighting type, except for the 1,000 and 2,500 lumens incandescent lighting, is higher than the present rate (Exh. CEL-20, Schs. 1, 2). No party objected to the method used by the Company in designing the S-1 rate.

The Department finds the Company's rate proposal reasonable. The Department directs the Company to calculate the S-1 rates using the marginal cost data found in Section VII.2. of this Order.

p. Terms and Conditions

The Company proposes to add language to its terms and conditions for service that would limit its liability for damages arising from any break in service occurring in the ordinary course of transmitting electricity to no more than the "proportionate charge to the customer for the period of service during which the interruption in transmission occurs" (Exh. CEL-19, at 26). In addition, there is explicit language relating to the limitation of liability for lost profits (Exh. CEL-29, Sch. 2). The Company states that such limitations benefit the Company and its customers by avoiding increased liability insurance costs (id.). According to Cambridge, the provisions strike an appropriate balance between the Company's obligation to serve and its responsibility to provide electric service at the lowest possible cost (Exh. CEL-19, at 26). The Company maintains that the principles, which allow for limitations of liability provisions in telephone utility tariffs can also be applied to electric utilities (RR-DPU-10). No party commented on this issue.

In Berkshire Gas Company, D.P.U. 90-121 (1990), the Department disapproved a proposed provision in the terms and conditions that included language similar to that proposed by Cambridge in the instant proceeding. Id. at 270. Mr. Chiara, the Company's witness whose prefiled testimony contained the proposed language, stated that the scope of this proposal was beyond the issues supported in his prefiled testimony (Tr. 7, at 77). The Department finds that there is insufficient evidence on the record to support its assertion that such a provision would benefit ratepayers. Moreover, there is no evidence or argument to address concerns about the implications that such a provision may have over the rights of potential litigants. Accordingly, the Department rejects the Company's proposed change in the terms and conditions.

q. Filing Requirements

The Department frequently receives requests from ratepayers seeking explanations of the Company's rates, tariffs, and terms and conditions filed at the Department. In order to facilitate an efficient and accurate response to such inquiries, the Department directs the Company to submit, within 30 days of the issuance of this Order, a draft explanation of the Company's rates, tariffs, and terms and conditions. This explanation should be designed as a guide for the Company's general ratepayer population. Accordingly, it should be brief, comprehensive, and "user-friendly," and should include an alphabetical glossary of terms and expressions a consumer is likely to encounter in an effort to become familiar with the Company's rates and services. Further, the Company is expected to coordinate with the Department's Consumer Division in the development of this consumer guide.

IX. ORDER

Accordingly, after due notice, hearing, and consideration, it is

ORDERED: That the tariffs M.D.P.U. Nos. 502 through 522 and 466, filed with the Department on November 16, 1992, be and hereby are DISALLOWED; and it is

FURTHER ORDERED: That Cambridge Electric Light Company shall file new schedules of rates and charges designed to produce total additional annual base rate revenues of $7,048,983; and it is

FURTHER ORDERED: That Cambridge Electric Light Company shall file all rates and charges in compliance with the requirements of this Order; and it is

FURTHER ORDERED: That the new rates shall apply to electricity consumed on or after June 1, 1993, but unless otherwise ordered by the Department, shall not become effective earlier that seven (7) days after they are filed with supporting data demonstrating that such rates comply with this Order, and the Company's compliance filing shall include the increases authorized in Section IV.A.6 for the four-year phase-in of postretirement benefits other than pensions for June 1993, June 1994, June 1995, and June 1996; and it is

FURTHER ORDERED: That the Company provide notice by means of a bill insert that shall have been first reviewed and approved by the Department's Consumer Division. The Company shall include said bill insert with the first cycle of the Company's bills that incorporate the rates authorized by this Order; and it is

FURTHER ORDERED: That Cambridge Electric Light Company shall immediately hand deliver a copy of this Order to each member of ComEnergy System's Board of Trustees, and it is

<u>FURTHER ORDERED</u>: That Cambridge Electric Light Company shall comply with all other orders and directives contained herein.

By Order of the Department,

X. CONCURRING OPINION OF COMMISSIONER BARBARA KATES-GARNICK

I am writing a concurring opinion on the subject of DOER's request for clarification of the Hearing Officer's March 25, 1993 ruling regarding discovery requests about mergers, consolidations and joint endeavors with other utilities. It is my view that the Hearing Officer's March 25, 1993 ruling is unambiguous and requires no clarification. Rather, I find the majority opinion itself to require clarification.

Although my fellow commissioners appear to support the Hearing Officer's Ruling (Order at 5), they also make a number of statements that are clearly inconsistent with that Ruling. Their support of the ruling appears to be based on the statement that "there was insufficient time remaining in the case to perform and analyze those studies" (Order at 6) requested by DOER. In his Ruling, however, the Hearing Officer did not deny DOER's motion because of concerns about insufficient time. Instead, the Hearing Officer rejected the motion because "the issues raised by DOER's information requests fall outside the scope of a general rate case" (Hearing Officer Ruling at 7). Moreover, I am perplexed by a statement in the majority opinion where my colleagues appear to recognize time constraints on discovery, but still encourage intervenors to present a direct case on these very issues (see Order at 6 n.5). Further, I am confused by the statement in the decision that "the Department will exercise its discretion, when presented with such issues, to determine prospectively the scope of inquiry into a utility's cost-savings efforts" (Order at 7).

The amount of time for a full examination of DOER's discovery request in this case was not constrained. On the contrary, DOER presented timely discovery requests. What constrained discovery was not insufficient time but, rather, the absence of studies concerning mergers, consolidations or joint activities with other electric utilities. Had such materials existed, they would have been discoverable.

Although my colleagues express support for a Hearing Officer ruling that clearly states that the issue of mergers and consolidations fall outside the scope of a general rate case, they nonetheless invite intervenors to present direct cases and subsequent analysis. I find this approach to be contradictory to the ruling they are ostensibly supporting. This confusion is only heightened by the notion of a discretionary prospective examination "of the scope of inquiry into a utility's cost-saving efforts" (Order at 7); I cannot conceive of what kind of proceeding this will be, all within the confines of an essentially retrospective, six-month rate case review.

Still, I strongly share my colleagues' expectations that all utilities will "explore thoroughly all cost-savings measures" and that the Department will not be reluctant to investigate fully in a rate case the extent of a company's cost-containment efforts. In this regard, the Majority Opinion is consistent with the Ruling which noted (1) that "issues of cost-savings, cost-effectiveness, and the forms of corporate organization generally are of considerable interest to the Department," and (2) that "utilities [must] explore potential opportunities to achieve efficiencies of all kinds." See Ruling at 7. Likewise, I agree that "[t]hese principles remain paramount" (Order at 6).

I share the outlook of my fellow commissioners' that a utility's foremost obligation is to serve its ratepayers in a safe, reliable and least-cost manner. This obligation requires a utility to identify, investigate, and pursue all opportunities that benefit ratepayers. Such an approach should naturally include consideration of alternative corporate structures. The entire Commission fully expects utilities, when faced with either extraordinary problems or opportunities, to consider mergers or acquisitions as one means of lowering costs to ratepayers. These opportunities will differ among companies, but as a matter of course, should be diligently explored by senior management and directors. Therefore, along with my fellow commissioners, I remind all companies that prudent and effective management requires a utility to be diligent in exploring and implementing all cost-containment opportunities.

A rate case is the Department's primary opportunity to evaluate a utility's efforts at cost-containment, and, where appropriate, determine whether an exploration of alternative corporate structures might be part of such efforts. The Department, however, has no statutory authority to order or "will" a merger, consolidation or acquisition. Encouraging intervenors to present direct cases and focus upon the issue of whether a merger should take place in the context of a general rate case will only serve to dilute and strain the Department's ability to review the utility's rate request in a six-month period. The statutory time allowed for rate cases should be devoted to the close examination of the many cost items that the Department is statutorily authorized to address in a rate case proceeding.

Here, by inviting intervenors to present a direct case on mergers and acquisition in every rate case, the majority has added a completely unnecessary layer of process. It is my fear that utilities, including well-managed ones, through either direct or rebuttal cases, will be compelled to undertake costly studies to justify their very existence. This cannot be in the ratepayers interest.

Although the Department cannot make decisions regarding mergers, consolidations and joint ventures in a rate case proceeding, the Department is statutorily authorized to review proposals to allow these sorts of corporate changes. In my view, it is in those areas where we have express statutory authority that the Department could be more effective in addressing the issues which DOER hoped to raise in this case. If cost-containment efforts lead to the conclusion that certain changes in corporate structure would be advantageous to ratepayers and shareholders, then it may be appropriate for the Department to open a generic proceeding for the purpose of establishing clear guidelines and standards for determining when proposed changes in corporate structures are warranted and "consistent with the public interest." See G.L.C. 164, § 96. This type of proceeding would allow the utilities, DOER and others to present their cases, and ultimately, enable the Department to clearly and comprehensively address these important questions. By focusing our efforts in areas where we have clear statutory authority, we can meet the cost-containment goals which I share with my colleagues and, at the same time, provide clear direction to those that come before the Department.